THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
The Railway Engineer · TRANSPORT · The Railway News
The Railway Times · Herapath's Railway Journal · THE RAILWAY RECORD.
RAILWAYS ILLUSTRATED · ESTABLISHED 1835 · THE RAILWAY OFFICIAL GAZETTE

PUBLISHED EVERY FRIDAY
AT
33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1

Telegraphic Address: "TRAZETTE PARL., LONDON"
Telephone No.: WHITEHALL 9233 (8 lines)

Annual subscription payable in advance and postage free
British Isles and Abroad ..... £2 5s. 0d.
Single Copies ..... One Shilling
Registered at the General Post Office, London, as a Newspaper

VOL. 81 NO. 16 FRIDAY, OCTOBER 20, 1944

CONTENTS

	PAGE
Editorial Notes	369
British Railways and Post-War Air Transport	371
Flat-Bottom Switches and Crossings	373
Through Coach Facilities in Wartime	373
Letters to the Editor	374
The Scrap Heap	376
Overseas Railway Affairs	377
Proposed Pullman Three-Deck Coach for U.S.A. Business Travel	378
Flat-Bottom Track in Great Britain—II	379
Personal	383
Transport Services and the War	386
Stock Market and Table	392

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and facilities for such dispatch.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:
Mondays to Fridays 9.30 *a.m. till* 5.30 *p.m.*
The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND RATIONING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Industry Opposed to Transport Nationalisation

A REPORT on post-war transport, compiled by a joint committee of the Association of British Chambers of Commerce and the Federation of British Industries, has been adopted by the executive committees of both organisations. Some details of this Committee were given in our issue of August 18, when the report was awaiting approval by the parent bodies. The recommendations in the report are limited to merchandise traffic, but on a broader basis it declares roundly that industry is opposed to nationalisation of transport and to a monopoly of transport in any other form, as it is convinced that any monopoly is undesirable and prejudicial to the interests of the community, and would be detrimental to the trades and industries of this country. Although a certain measure of equitable regulation by legislation is necessary, the ownership of all forms of transport should be left to private enterprise, and any improvements in service which may be required can be effected without interfering with that system. The report finds that the effect of existing legislation on the railways, and especially some of their obligations, should be reviewed if they are to compete on a fair basis with other forms of transport.

Railway Charges

In the matter of railway charges, the report favours the continued obligation to publish rates by the railways, and suggests that a public inquiry should be held into the existing regulations governing all forms of transport. That inquiry should cover the principles of standard revenue, the question of revision of the classification of merchandise and the fixation of agreed charges. It suggests that greater regard should be paid to weight of consignments and, as far as possible, to the cost of service; that exceptional rates should be continued, subject to adequate safeguards; that the existing legislation in connection with the fixation of agreed charges should be reviewed; and that the provisions relating to undue preference require some relaxation, provided that, in the case of traffic tied to rail, adequate protection against discrimination is continued. It points to the necessity for respecting agreements, under which special rates have been granted for valuable consideration. Similarly, special rebates have been granted to attract traffic through certain channels, and some industries have been located on their present sites on the basis of these rebates. The report suggests that substantial economies might be effected by a revision of railway operating methods, designed to concentrate rail movements into full wagon and train loads between certain key points.

Government Surplus Factories

The Government has drawn up plans for the disposal of surplus factories, which, except in special circumstances, will not be sold outright but be let for a period of ten years with the option of the tenant to take a new lease for a long term. The rental for the first period will be certified by the Valuation Office of the Inland Revenue Department as the rental value in the open market of the factory calculated on 1939 value. The factories are to be allocated to applicants on the basis of certain factors in the national interest. These will include a balanced distribution of industry; the re-establishment and expansion of export trade; maintenance of a war potential; and so forth. The short lease normally will cover all buildings, services, and built-in plant. It will be open to the tenant to acquire all, or a substantial part, of the machine tools in the factory (provided they are not lease-lend tools), and if the tenant satisfies the Board of Trade that he requires any of the other removable contents, such as shop equipment, furniture fittings, and so forth, he will be able to purchase these at prices approved by the departments responsible for the disposal of surplus Government articles.

Shorter Trains on the L.N.E.R.

Although it has been necessary for the British railways to reduce their passenger services by approximately one-third compared with peacetime, travel conditions have been eased to a considerable extent by lengthening many important trains. The use of the most powerful locomotives has enabled many trains to be increased in length by more than 25 per cent., and in a number of cases half as many coaches again have been added to certain trains; in exceptional instances trains have been almost doubled in length. A survey taken over the Western Division of the L.M.S.R. showed that, in a recent period of three weeks, 269 trains conveyed 17 coaches, 39 had 18 vehicles, and 8 were composed of 19 vehicles. Before the war a heavy train was composed of from 12 to 15 coaches. On the L.N.E.R., from the outbreak of war to the end of June last, 20 coaches constituted the maximum load allowed on the main line to the North of England and Scotland, although last-minute demands have occa-

sionally resulted in trains of 22, 23, and even 24 coaches. A record was established in 1941 when a train of 26 vehicles weighing 860 tons conveyed 1,300 passengers from Peterborough to Kings Cross. At the end of June, because of the excessive time which was being lost *en route* by the need for double and treble pull-ups at stations, and the very considerable additional strain which these extra long trains put on the locomotive, the maximum train load was reduced from 20 to 18 vehicles and this is now the usual number of coaches on nearly all the L.N.E.R. main-line trains. On the G.W.R., before the war, long-distance trains averaged 12 vehicles; at present most of the long-distance trains leaving Paddington are composed of 15 vehicles.

Great Western of Brazil Railway

The report for the year 1943 shows that the gross receipts in currency were the highest in the history of the company. These results reflect the increase of tariffs put into force in 1942-43, the virtual absence of road competition, and additional traffic brought by war conditions. Demands on the operating departments have been unparalleled. Locomotives and rolling stock were constantly in service throughout the whole year, resulting in overtime in the main shops and sheds, and the necessary firewood fuel was more difficult to obtain and more costly. Heavy rains in the second half of the year also greatly hampered track repairs.

	1942	1943
Miles open	1,030	1,030
Passengers	3,945,191	5,147,728
Total tons	2,221,874	2,622,627
Ton-kilometres...	172,191,392	217,380,829
Operating ratio, per cent.	73·02	77·12
	£	£
Passenger receipts	154,109	242,100
Goods traffic receipts	447,733	638,952
Gross receipts	644,992	956,819
Working expenses	471,021	737,863
Net receipts	173,971	218,956

The fuel situation has now obliged the company to convert seven locomotives to burn oil and to import a cargo of coal at £5 10s. per ton c.i.f. compared with 35s. in 1938.

The C.P.R. Dividend

After the unpleasant surprise caused by the August statement regarding net earnings comes the more encouraging announcement of a dividend of 2 per cent. (50 cents a share) on the ordinary capital stock. This will be paid on December 1 next in respect of and from earnings of the year 1944. A dividend of the same amount was paid on March 31 last and it was specifically stated that it did not come out of the balance to profit and loss for 1943 shown in the balance sheet. The earnings of 1944 may therefore be taken as capable of bearing the two ordinary dividends, amounting together to $13,400,000, notwithstanding the estimated increase of $15,000,000 for wage increases which will fall on those earnings. In 1943 the balance to profit and loss, after payment of the preference dividend, was $37,939,936. Net charges to profit and loss during that year amounted to $7,956,201, leaving a profit and loss balance at December 31, 1943, of $231,234,218.

Permanent Way Exhibition in Cardiff

The twelfth, and probably the last, of the exhibitions in connection with the Diamond Jubilee of the Permanent Way Institution was inaugurated with civic ceremony at Cardiff on Saturday last (see page 389). The South Wales Section has taken the "standard" exhibits and amplified them with local relics, selected and arranged with considerable skill, so as to give a distinctive Welsh character to the exhibition. The P.W.I. President (Mr. V. A. M. Robertson), with Mr. A. S. Quartermaine, Chief Engineer, G.W.R., and a small party from London, who participated in the opening ceremonies, were received at Cardiff by the Lord Mayor, who entertained them to luncheon at the City Hall. This was followed by a meeting of the South Wales Section in the National Museum of Wales, which was addressed by the President and then viewed civil engineering films. The Lord Mayor afterwards declared the exhibition open, and the large numbers of persons who have since visited it are evidence of the local enthusiasm and appreciation of the importance of good railway track. This has doubtless given deserved gratification to those of the local committee who have laboured faithfully and well to achieve an outstanding result. From one viewpoint it is to be regretted that the Diamond Jubilee has fallen during the war, but, on the other hand, as Mr. Robertson observed, war conditions have given the general public a keener insight into the vital part which railway tracks play in maintaining the security and wellbeing of the country.

Railway Nationalisation in Venezuela

The recently issued report of the La Guaira & Caracas Railway Co. Ltd. contains the interesting statement that the Venezuelan Government has asked the company to operate, on Government account, the Gran Ferrocarril de Venezuela (about 112 miles in length) formerly controlled by German interests but now taken over by the Government. This the company has consented to do; the conditions under which the line will be operated have been discussed, to cover a first period of three to four years, and it is expected that a definite agreement will be concluded shortly. The company will receive a fee for its services, based on the amount of traffic handled. Working of the line will be undertaken in co-operation with the Bolivar and the Puerto Cabello & Valencia Railways, which also link up with the Gran Ferrocarril. A description, with map, of the railways of Venezuela was given on page 357 of *The Railway Gazette* for October 8, 1943. The Gran Ferrocarril, which connects Caracas with Valencia, was built by a Germany company in 1894, but ownership was transferred in 1924 to a Spanish company, the Cia. de FFcc. Sud-americanos of Madrid, in which German interests were said still to predominate. It was in November, 1943, that the Government "for reasons of public interest" decided to take over the line.

What the Passenger Wants

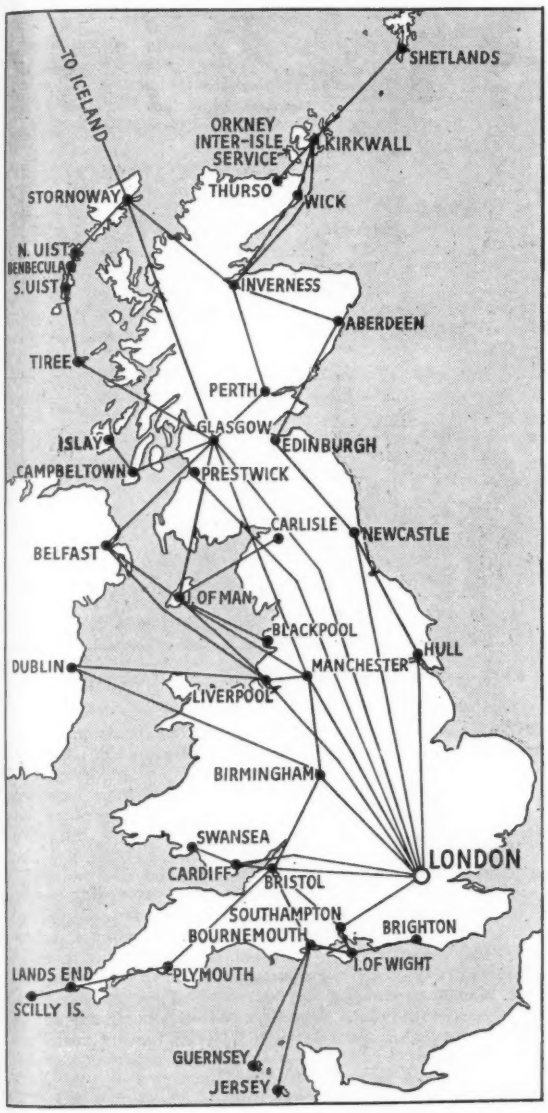
In common with other American railways, the Chicago, Burlington & Quincy lately has been eliciting passengers' opinions, on the streamline Zephyrs as well as standard main-line and secondary trains, as to the service that it offers. The inquiry was conducted unobtrusively by a special staff which posed as ordinary travellers, and sought the reactions of all ages to rail travel. In general, the results of the inquiry were gratifying to the railway, and the suggestions as to post-war improvements were both informative and helpful. Of the passengers interviewed, 92 per cent. thought that fares were reasonable, and 87 per cent. declared that equipment and seating were comfortable, notwitstanding the extent to which the older stock has been pressed into service to meet wartime needs. Roughly 90 per cent. liked the food and service in dining cars, and 76 per cent. considered dining-car prices as reasonable. Radio in the trains appealed to 97 per cent. of the passengers, but there was a wide difference in the type of programme desired. Although 90 per cent. of those interviewed had no fault to find with station and train staffs, only 70 per cent. regarded the stations themselves and their waiting rooms as free from criticism. An interesting feature of the inquiry is that 75 per cent. of present railway travellers previously made their journeys by road, and many of these expressed their intention, after the war, of using the trains more than they had done previously, especially on the longer journeys. It was on the streamline high-speed Zephyr trains that this opinion was most frequently expressed.

Locomotive Axlebox Maintenance

An important aim in locomotive maintenance work is so to level up the intervals between major maintenance operations that they shall fall due simultaneously when the locomotive comes into the works for general overhaul. This point was stressed by Mr. E. S. Cox of the L.M.S.R. in the paper he read before the Institution of Locomotive Engineers in April last, entitled "Locomotive Axleboxes." Figures given in this paper showed that whereas the average mileages run by different classes of L.M.S.R. locomotives between service repairs to axleboxes ranged from 60,700 miles with class "4" 0-6-0s to 90,880 miles with the latest Pacifics, there is some distance to go before the interval between these repairs can coincide with that between boiler changes, which averages 114,000 miles. One possible solution is roller bearings, for it was stated that after 250,000 miles the roller bearings of the turbine-driven Pacific, No. 6202, were still in excellent condition. That roller bearings, now coming into such widespread use in the United States, were not regarded with more favour by British locomotive designers was attributed to the fact that in the bigger American locomotive classes axle-loads in general are 50 per cent. greater than in Great Britain, and that bearing wear is only a part of the axlebox problem, which also includes wear on horn faces and flanges. A speaker in the discussion pointed out, however, that by the use of suitable steels the wear of the parts last-mentioned could be made to equal that of the bearings themselves, and that the reduction in starting effort from the 15 to 18 lb. per ton required with plain journal bearings to 3 to 4 lb. per ton with roller bearings was an advantage not to be overlooked.

British Railways and Post-War Air Transport

FROM the railway viewpoint, the most interesting feature which emerged during the debate in the House of Lords on post-war civil aviation on October 12 was the fact (announced by Lord Balfour of Burleigh, a Director of the L.N.E.R.) that the British railways regard air transport as a primary service and not as an auxiliary, a phrase which was used by Mr. John Elliot at the recent Maidstone railway centenary celebrations, and widely mis-quoted in the lay press. Lord Balfour described in detail the comprehensive scheme of civil air services prepared by the four main-line railway companies, and submitted to the Government,



Proposed railway air network of the British Isles

which he described as "a modern magic carpet of travel." As he said, the railway companies are taking the long view; although their calculations have been made carefully in the light of all their experience, there are unknown factors, such as fares and post-war rates of exchange among the continental countries, and the railway companies realise that they will have to face a difficult period of loss which they feel they have the resources to face; then there is the possibility of a period of years in which they will break even; and, finally, they hope to reap a deserved profit. In the midst of so much uncertainty as to the future of civil aviation in this country, it is refreshing to realise that the main-line railways are the only organisation to publish a plan for the operation of a complete European service.

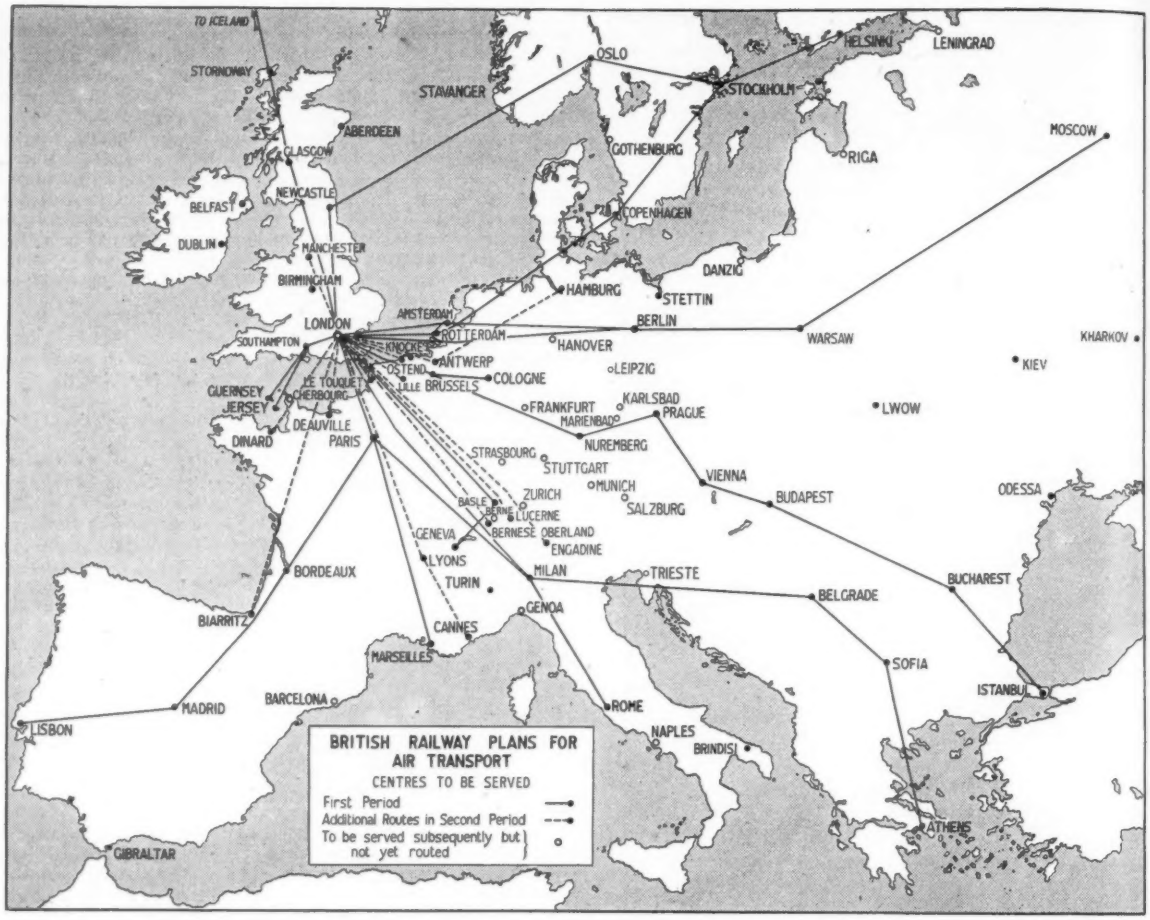
Lord Balfour pointed out that, in the last debate, the Lord Privy Seal had said that if the shipping and railway companies made proposals that would supplant the services of the British Overseas Airways Corporation, and gave them without subsidy, then, of course, the Government would be very glad to listen. The railway companies had done just that. It was a sincere scheme in the national interests and, amid cheers, he asked the Government to give it earnest consideration. Lord Beaverbrook welcomed the plan of the railway companies on behalf of the Government, and said it was splendid. He was glad to hear that the railways were taking such an intense interest in civil aviation.

Despite the many unknown economic factors of post-war air transport, there can be no doubt of a substantial demand for passenger air services, and probably also for air freight services, handling "light" and valuable consignments of a weight which, but five years ago, would have been regarded as heavy beyond the capacity of aviation. There are those who feel that the primary task of a railway company is to operate a railway, and that excursions into other businesses are justified only so far as those other enterprises are auxiliary to the main objective. In the past this has been mainly, though not entirely, the policy of the British railway companies, and it has not always been attended with the happiest results in connection with other forms of transport. Although legal limitations have been responsible to a considerable extent in past years, commercial reluctance has also been an important factor in causing the railways to regard road and shipping services as ancillary undertakings, and, until now air transport. In admitting boldly that the railways regard air transport as a primary service, and not as an auxiliary, and yet proposing to embark upon it on an extensive scale, it seems to us that the railways have taken the realistic course of realising that the potential demand cannot be met by playing with the problem, and that they are faced with the alternatives of either embarking upon air transport on a large scale, or of standing aside and letting others do the best they can, without grumbling about unfair competition when those other interests operate their systems without regard to railway policy or to co-ordination of effort.

Broadly, the railway plan, as submitted to the Government, is for two inter-related air networks, one covering Great Britain, and the other radiating from this country over a large portion of the continent of Europe. Doubtless, if the plan is accepted and put into operation, the requisite legal powers so far as concerns this country and also the rights of transit and landing in foreign countries will be granted and negotiated respectively by the British Government, but it is pertinent to recall that already the British main-line railways, under their Air Transport Acts of 1929, possess Parliamentary powers to provide, own, work, and use, air transport services for the conveyance of passengers, mails, parcels, and merchandise, not only in Great Britain, but to the Continent and islands of Europe as far as the 20th degree of longitude east of Greenwich, that is, as far as places such as Stockholm, Danzig, Budapest, and Brindisi.

The Railways propose: (*a*) To operate over all the main and subsidiary routes without subsidy, on the assumption that, by agreement between Governments, no subsidies will be granted to anyone in the European field; (*b*) to form a new company to operate the network; (*c*) to offer partnership with other air operators, and with short sea shipping interests who operated regular surface routes before the war similar to their own cross-channel services (six shipping companies have already accepted the offer in principle); (*d*) to give the public complete inter-availability of tickets over their land, sea, and air network; and (*e*) to buy British equipment as soon as it is available. This entails, *inter alia*, a mileage of 20,000,000 annually at the outset, which will be increased progressively. This will cover regular services internally within the British Isles and also to all parts of Europe, as shown on the accompanying sketch maps. A feature of the services will be their increasing frequency as economic conditions are restored and suitable aircraft and personnel become available. The Railway air plan embraces services on some 34 internal routes within the British Isles, including Glasgow and Dublin, and provisional services to more than 100 Continental places by means of 19 routes extending to Paris, Brussels, Marseilles, Rome, and Lisbon, and others as far away as Berlin, Moscow, Istanbul, Helsinki, Athens, and Iceland.

The aircraft to be used in the initial stages will be 25 seaters, combining comfort and convenience of operation, and permitting frequent services, with much saving of time at customs barriers,



Proposed British air lines to the European Continent, to be worked by a subsidiary of the British railways

etc. Typical flying times between airports from London will be to Amsterdam 1 hr. 12 min.; to Athens 9 hr. 5 min.; to Basle 2 hr. 30 min.; to Belfast 1 hr. 47 min.; to Berlin 3 hr.; to Brussels 1 hr.; to Dublin 1 hr. 37 min.; to Glasgow 1 hr. 55 min.; to Istanbul 8 hr. 45 min.; to Jersey 1 hr.; to Lisbon 6 hr. 20 min.; to Moscow 8 hr. 47 min.; to Ostend 43 min.; to Paris 1 hr.; to Prestwick 1 hr. 49 min.; and to Rome 4 hr. 44 min. In later stages the railways look forward to higher speeds as suitable aircraft become available. The railways are determined to use British aircraft as soon as these are procurable from the British aircraft industry, but, to prevent any delay in bringing the plan into operation, it will be necessary in the interim period to use the wartime version of the D.C.3 commercial air liner or similar aircraft. Provision is also to be made for a repair organisation for the overhaul and major repair of aircraft, engines, and accessories.

The British railway companies have long ceased to be carriers by rail alone, and have become transport companies offering co-ordinated transport by rail, sea, road, and air. They have ten years of experience in operating air services under the powers granted to them by Parliament, and the railway steamship services carried annually before the war some 5,000,000 passengers, 2,500,000 tons of cargo, and 2,500,000 mail receptacles. Moreover, in normal circumstances they have trained staffs stationed in all parts of Europe both in their own organisations and in that of Thos. Cook & Son Ltd. which they own. It is their declared intention to do everything in their power to develop air transport in a co-ordinated system of air and surface transport, and they have the exclusive ability to give complete interavailability by all forms of transport.

During the war, the aircraft of Railway Air Services and associated companies (which were operating 80 per cent. of the total route mileage of all internal air services) have flown 6 million miles without loss of life, excepting on one occasion through enemy action, and have carried a quarter of a million passengers, and 6 million lb. of cargo and mails, with a record of regularity over sea crossings of more than 95 per cent. Railway experience has shown that internal air services cannot be conducted most efficiently and economically as a separate entity, but should become part of a wider sphere of operations to obtain the maximum number of flying hours per annum from each unit. The inter-related networks for Great Britain and the Continent have been planned with this objective.

In the course of the debate in the House of Lords on October 12, Earl Amherst, who said he was still a director of one of the railway-owned air companies of which he was formerly General Manager, strongly supported the view of the railway companies that first class travelling facilities could not be provided without full co-ordination—in which he included interavailability—between air and ground. The experience and the contacts which had been built up over a period of 100 years or more represented an enormous asset which he asked the Government to take seriously into consideration. They were prepared to go into partnership or co-operate with any established air service operator in the European Zone, provided the zone in which they were allowed to operate was large enough to enable them to spread their maintenance costs over a large fleet, which must be fully occupied.

Lord Beaverbrook, replying to the debate, said that the British Government's policy at the Chicago conference was fixed some time ago. It was proposed that international regulation should be imposed on civil aviation controlled by an international authority, which would lay down technical standards and would regulate air transport on such matters as frequencies and rates of carriage. They sought to eliminate wasteful and improvident subsidy votes. Lord Swinton would have administrative authority. The Ministry

of Aircraft Production could accept orders for building civil aircraft without reference to the Air Ministry at all. He (Lord Beaverbrook) agreed that the railway plan was a splendid one.

Flat-Bottom Switches and Crossings

IF, at some future time, the bull-head rail of British railway tracks should give way to the otherwise almost universal flat-bottom rail, the manufacture of switches and crossings would necessarily be included in the change of practice, and the L.N.E.R. is to be congratulated on having taken the initiative in this respect by laying in a complete running line turnout made from B.S. 110 f.b. rails. A descriptive article appears on page 379. In many respects the experience to be gained from the design, manufacture, laying in and subsequent maintenance of this turnout will prove invaluable to all railway engineers in this country but, as with the trial lengths of flat-bottom track laid in experimentally on the L.M.S.R. and L.N.E.R., comparison between 110 lb. flat-bottom and 95 lb. bull-head rails will not necessarily give a true picture of the maintenance of b.h. and f.b. track respectively unless due prominence is given to the disparity between the original weights of the two rails in arriving at any conclusion.

Doubtless there were sound reasons for the adoption of the heavier flange rails, as for instance, the similarity between the respective areas of the two rail heads, but, in the view of some railway engineers, a more satisfactory comparison of b.h. and f.b. track might have been possible if both rails had been more nearly the same weight, preferably 95 or 100 lb. a yard. The initial increased strength of the B.S. 110 f.b. rail compared with the B.S.R. 95 b.h section in general use is of the order of 50 per cent., and it is, therefore, logical to expect that this fact would be reflected in any attempt to compare the maintenance and renewal costs of the two sections. As against this view, however, it must be remembered that the weight of cast iron in the soleplates for f.b. rails is generally less than that of the chairs for b.h. rails, a saving which can be offset against the increased weight of the f.b. rail section.

The general use of softwood sleepers and crossing timber in this country would necessitate flat-bottom rails being seated on metal baseplates not less in bearing area than the present standard cast-iron chairs and the selection of suitable fastenings requires careful consideration. When the baseplate is secured to the rail and to the sleeper by independent means, as for example, in the Reichsbahn type assembly, the number of separate components subject to wear and in need of periodical adjustment is in excess of those associated with b.h. track, especially where the latter has only two bolts per chair. Dual fastenings, such as the elastic spike, are not open to this criticism and, providing their holding power does not unduly deteriorate as the life of the track expires, they might be the final choice. In this connection it is interesting to note that tests on the strength of various sleeper assemblies carried out by the L.M.S.R. Research Department showed that the holding power of one elastic spike on the inside of the rail (110 lb. f.b.) decreased rapidly with horizontal loads exceeding six tons, indicating the necessity for at least two spikes in this position to resist lateral thrusts and the tendency to pull the inside fastenings.

With b.h. track the support afforded by the substantial chair jaws reduces the tendency for the rail to tilt outwards and relieves the inner screws or bolts to this extent. Switches and crossings manufactured from flat-bottom rails supported on large baseplates with satisfactory fastenings might be expected to maintain their alignment better than the present standard b.h. type, although no doubt more difficult and costly to manufacture because of the greater resistance offered by the wide flange to bending, and the necessity for planing this away to varying extents locally. On the other hand the stability of the f.b. rail on its broad foot tends to simplify the construction, and is an advantage not to be overlooked.

In comparing the design of the f.b. turnout illustrated on page 380 with the present standard British design, the most striking difference concerns the number of fastenings. In the crossing guard-rail, for instance, the f.b. design necessitates eight separate screws or bolts per timber against four screws and two wooden keys for the b.h. type. It is interesting to recall in this connection that about 1936 chaired track was being used in tunnels in Germany and Austria, despite the general standard in these countries being flange rail. The main reason given for this radical departure from normal practice was the relatively few small metal parts with chaired track compared with the fastenings used with the f.b. type.

In Germany, f.b. rails were used in special cast-iron chairs with spike and trenail, or chair screw fastenings; the rail was secured by two wooden keys of opposite taper. In Austria, b.h. rails were used, as in this country. Two other points concerning f.b. switches may be mentioned, namely, the possible necessity for more frequent cleaning and oiling of the slide chairs because of the greater weight and increased bearing area of the tongues, and the greater stiffness of the f.b. rail in the horizontal plane, which makes it more difficult to move a switch of the spring heel type than with b.h. rails.

Through Coach Facilities in Wartime

WHILE in the stress of wartime operation many of the British through coach facilities normally available in peacetime have been withdrawn, certain through services are now in operation which were not at the disposal of the peacetime traveller, and in some cases they are definitely of war origin. For example, a through portion for Plymouth is now run on the 5.30 p.m. express from Glasgow (St. Enoch) to Carlisle; before the war there were through coaches between Glasgow (Central) and Plymouth, but for Kilmarnock and Dumfries to enjoy such facilities has no peacetime precedent. Again, even at the height of the London & North Western and Midland competition of the past it would have been surprising to find the former company offering to transport passengers from Euston to Bradford; yet today the 10.15 a.m. express from Euston leaves daily with a Bradford portion on the rear, which, furthermore, is nearly as fast as the service offered by the 9.5 a.m. from St. Pancras, and reaches Bradford an hour before the connection off the 10 a.m. from St. Pancras.

Some of the most interesting war developments in through coach facilities have been those instituted by or in conjunction with the L.N.E.R. From early in the present century the late Great Central Railway, with the aid of the short spur, opened in 1901, linking its recently-opened London Extension, at Woodford & Hinton, with the G.W.R. at Banbury, was to the fore in arranging through trains between North Eastern England and the south and west; ultimately these included daily through trains between Newcastle and Bournemouth, Newcastle and Southampton, and Newcastle and Cardiff, Barry, and Swansea; in 1921 the through service was added which at various times worked between Aberdeen and Penzance or over the shorter course between Edinburgh and Swindon. But while, with the exception of a nightly York-Swindon train, all of these disappeared on the outbreak of war, a new and interesting development in 1940 was the establishment of a through train between Newcastle and Ashford (Kent), *via* Sheffield, the Great Central main line, Banbury, Oxford, Reading, Guildford, and Redhill. This train continued until withdrawn on May 13, among the general withdrawals of last summer, and was not restored in the October timetables.

The L.N.E.R. has also been running certain through trains of its own for which there was no precise counterpart in the pre-war timetables. The well-known "North County Continental," first instituted in Great Eastern days, provided through carriage facilities from York, Liverpool, Manchester, and Birmingham, to Harwich, and some years after the formation of the L.N.E.R. through carriages were provided also between Glasgow, Edinburgh, and Harwich. Once more, mainly in the interest of the Services, through facilities to and from the Eastern Counties have been restored, though diverted from Harwich to Colchester. Three such through trains are run in each direction daily, between York and Colchester, Leeds and Colchester, and, overnight, between Edinburgh and Colchester. The first-mentioned takes the old boat train route, *via* Lincoln and Spalding; the two others use the Great Northern main line as far south as Peterborough, where they diverge for March and the Eastern Counties. Through running of an L.M.S.R. train, formerly scheduled between Rugby and Peterborough only, to and from Norwich, Yarmouth, and Lowestoft, has been another useful wartime development of recent date, designed, like the through trains to and from the north, to do away with an extensive changeover of passengers and luggage at Peterborough. Thus, although the tendency on the outbreak of war was to dispense with all such through facilities, experience has shown the wisdom of reinstating those which help to avoid serious congestion at junctions, or of creating new trains to serve the same purpose.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

"A Protest at Railway Propaganda"

Hatch End, Middlesex. October 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your correspondents who are working themselves up into a somewhat feverish state of excitement concerning the propagandist use of a signal at danger on the front cover of a recent issue of *The Railway Magazine* appear to have overlooked the essential feature of this remarkable piece of apparatus. It is not merely that "The signal is against Holiday Travel THIS SUMMER"; upon closer scrutiny it appears to be against any kind of travel at any time, for, like the colours nailed to the mast, the arm is seen to be fixed securely to the post on both sides. Midway between the two bolts holding it in this position there is a curious attachment of a pendant description; precisely what function this may be expected to perform is not clear. Possibly it is the use of signals of this type that explains the late running of so many of our trains today, for getting past a succession of "fixed homes" with due regard to the rules and regulations is bound to cause a lot of tiresome delay.

Yours faithfully,

CECIL J. ALLEN

Railway Services in Western France

B.L.A. September 30

TO THE EDITOR OF THE RAILWAY GAZETTE.

SIR,—I have been fortunate in coming into possession of a couple of French timetables, one dated July 1, 1943, and the other May 22, 1944. They throw an interesting light on the conditions under which the French National Railways have been working during the past year, and show the drastic cuts which have had to be made, due, presumably, to the R.A.F.! I also had a look at a timetable dated April 6, 1944, which appeared to approximate fairly closely to that of 1943. One or two restaurant cars were running, but some of the day trains had been cut out. Furthermore, certain of the night trains to the West started from the Gare de l'Est instead of the Gare Montparnasse. In the 1943 tables most of the west-bound trains started from the Gare du Maine, an annexe of Montparnasse, a station which does not appear in the May, 1944, tables. All restaurant cars were withdrawn on May 22, 1944.

The Paris suburban services were quite good even in May, 1944, giving hourly or half-hourly services on most routes, though the Invalides-Versailles (R.G.) service operated only between Pont-Mirabeau and Meudon-val-Fleury (except for five trains each way to Versailles) in the 1944 tables. All these services were announced as being by electric traction.

On the main lines in 1943 there were two trains daily in each direction (one usually overnight), but this had been reduced to one a day each way in the 1944 tables. Speeds appear to have been somewhat similar to those operating in England.

Dealing first with the summer 1943 services, we find trains leaving St. Lazare at 07.36, all stations to Dieppe, *via* Neufchatel, in 5 hr. 39 min. for the 169 km.; 08.30 and 17.12 for Rouen and Havre, in 2 hr. 1 min. and 3 hr. 47 min. respectively for the former train, 1 min. longer to each town for the latter train. The 17.12 had a restaurant car, but ran only as far as Rouen on Tue., Wed., Fri., and Sun. Returning, the 14.55 *ex* Dieppe all stations got into Paris in 6 hr. 13 min.; the 07.00 and 17.06 *ex* Havre took 3 hr. 53 min. and 3 hr. 54 min. respectively (2 hr. 8 min. in each case non-stop from Rouen). The former train did not run between Havre and Rouen on Tue., Wed., Fri., and Sun. Both services to and from Rouen gave connections to Dieppe in 4 hr. 2 min. and 4 hr. 11 min. down, and 4 hr. 17 min. and 5 hr. 11 min. up.

In May, 1944, there was only the 08.43 down to Rouen (2 hr.) and Havre (3 hr. 44 min.), and the 17.04 up in 3 hr. 48 min. from Havre and 2 hr. from Rouen. No connection was given to or from Dieppe.

To Cherbourg trains left St. Lazare at 08.00 (4 hr. 14 min. to Caen and 6 hr. 46 min. to Cherbourg), and 16.15 (4 hr. 3 min. to Caen and 6 hr. 25 min. to Cherbourg); the latter had a restaurant car as far as Caen. Returning trains took 7 hr. 2 min. (4 hr. 27 min. from Caen) and 6 hr. 42 min. (4 hr. 19 min. from Caen); the restaurant car service was provided on the latter. The May, 1944 service showed one train down in 6 hr. 25 min. (4 hr. 40 min. to Caen) and one up in 7 hr. 45 min. (5 hr. 1 min. from Caen).

To Granville trains left St. Lazare at 07.37 in 6 hr. 42 min., and 23.35 in 7 hr. 40 min.; returning in 6 hr. 48 min. and 8 hr. 18 min. Only one day train each way (6 hr. 42 min. down and 6 hr. 50 min. up) remained in May. In the April timetable the night trains ran to and from Gare de l'Est in 9 hr. 55 min. down (non-stop Versailles-Vire) and 9 hr. 45 min. up (non-stop Villedieu-Versailles).

On the cross-country line Le Mans-Alencon-Rouen (280 km.) in 1943 trains left Le Mans at 10.40 (in 5 hr. 12 min.) and 23.52 (in 7 hr. 8 min.). There was only one return service at 12.54, taking 5 hr. 30 min. In 1944, the north-bound train left Le Mans at 23.55 and took 7 hr. 8 min.; there was no corresponding return train.

Finally, we come to the western main lines to Nantes, Brest, Quimper, La Rochelle, and Bordeaux. Trains left Paris Gare du Maine as under:—

07.00 for Chartres (88 km. in 1 hr. 25 min.) and Le Mans (211 km. in 3 hr. 27 min.).

08.15 for Chartres (1 hr. 11 min.), Le Mans (2 hr. 38 min.), Angers (308 km. in 4 hr. 18 min.), Nantes (396 km. in 5 hr. 49 min.), Lorient (585 km. in 10 hr. 18 min.), and Quimper (651 km. in 11 hr. 50 min.). Restaurant car Paris-Quimper. A connection was given at Nantes, with restaurant car, for Bordeaux, giving times from Paris of 9 hr. 45 min. to La Rochelle (575 km.), 10 hr. 19 min., to Saintes (649 km.), and 13 hr. 32 min. to Bordeaux (775 km.).

08.40 for Chartres (1 hr. 11 min.), Le Mans (2 hr. 38 min.), Rennes (374 km. in 5 hr. 33 min.), St. Brieuc (475 km. in 6 hr. 29 min.), and Brest (623 km. in 10 hr. 51 min.). Restaurant car to St. Brieuc

17.00 for Chartres (1 hr. 12 min.), Le Mans (2 hr. 39 min.), Angers (4 hr. 11 min.), Nantes (5 hr. 29 min.). Restaurant car to Nantes. Connection to Rennes from Le Mans (5 hr. 10 min.)

19.40 for Chartres (1 hr. 19 min.), Le Mans (3 hr. 5 min.), Angers (5 hr. 4 min), Nantes (6 hr. 32 min.), La Rochelle (10 hr. 32 min.), and Bordeaux (15 hr. 14 min.). This train had *couchettes* from Paris to Saintes.

22.00 for Le Mans (2 hr. 31 min.), Angers (4 hr. 16 min.), Nantes (5 hr. 49 min.), Lorient (10 hr. 19 min.), and Quimper (11 hr. 50 min.). Sleeping cars to Quimper.

22.15 for Chartres (1 hr. 12 min.), Le Mans (2 hr. 47 min.), Rennes (5 hr. 48 min.), St. Brieuc (7 hr. 49 min.), and Brest (11 hr. 5 min.). Sleeping cars to Brest.

In May, 1944, trains left Gare Montparnasse as under:—

07.00 for Chartres (1 hr. 25 min.), and Le Mans (3 hr. 27 min.)

08.10 for Chartres (1 hr. 15 min.), Le Mans (2 hr. 45 min.), Angers (4 hr. 23 min.), and Nantes (5 hr. 56 min.).

08.30 for Chartres (1 hr. 15 min.), Le Mans (2 hr. 45 min.), Rennes (5 hr. 45 min.), and St. Brieuc (7 hr. 40 min.). The connecting slow train reached Brest in 12 hr. 41 min. from Paris.

20.45 for Chartres (1 hr. 15 min.), Le Mans (2 hr. 45 min.), Angers (5 hr. 20 min.), Nantes (6 hr. 56 min.), Lorient (11 hr. 15 min.), and Quimper (12 hr. 53 min.). Sleeping car to Quimper. A connection left Nantes at 06.10 for Bordeaux, giving times from Paris of 12 hr. 54 min. to La Rochelle, and 16 hr. 58 min. to Bordeaux.

In the reverse direction trains arrived at Montparnasse as under in 1943:—

06.33 from (sleeping cars) Brest (11 hr. 18 min.), St. Brieuc (7 hr. 45 min.), Rennes (5 hr. 50 min.), Le Mans (2 hr. 49 min.), and Chartres (1 hr. 18 min.).

07.10 from (sleeping cars) Quimper (12 hr. 4 min.), Lorient (10 hr. 30 min.), Nantes (5 hr. 54 min.), Angers (4 hr. 30 min.), Le Mans (2 hr. 46 min.), and Chartres (1 hr. 18 min.). A connection was given at Nantes from Bordeaux (16 hr. 32 min.), Saintes (14 hr. 14 min.), and La Rochelle (12 hr. 47 min.), with restaurant car from Bordeaux to Nantes.

12.42 from Nantes (5 hr. 42 min.), and Angers (4 hr. 26 min.). Connection from Rennes (5 hr. 14 min.), Le Mans (2 hr. 46 min.), and Chartres (1 hr. 18 min.). Restaurant car Nantes-Paris.

18.33 from Brest (10 hr. 46 min.), St. Brieuc (7 hr. 22 min.), Rennes (5 hr. 40 min.), Le Mans (2 hr. 50 min.), and Chartres (1 hr. 18 min.). Restaurant car from St. Brieuc.

19.51 restaurant car train from Quimper (11 hr. 38 min.), Lorient (10 hr. 6 min.), Nantes (5 hr. 53 min.), Angers (4 hr. 29 min.), and Le Mans (2 hr. 45 min.).

20.58 from Le Mans (3 hr. 33 min.), and Chartres (1 hr. 26 min.)

21.52. Through carriages from Bordeaux (15 hr. 7 min.), La Rochelle (11 hr. 2 min.), Nantes (7 hr. 2 min.), Angers (5 hr. 28 min.), Le Mans (3 hr.), and Chartres (1 hr. 11 min.).

In May, 1944, these services were reduced as follow, arriving at Montparnasse:—

06.43 from Brest (13 hr. 23 min., change at St. Brieuc), St. Brieuc (7 hr. 58 min.), Rennes (7 hr. 3 min.), Le Mans (2 hr. 59 min.), and Chartres (1 hr. 22 min.).

07.21 sleeping car from Quimper (13 hr. 4 min.), Lorient (11 hr. 31 min.), Nantes (6 hr. 46 min.), Angers (5 hr. 23 min.), Le Mans (3 hr. 16 min.), and Chartes (1 hr. 31 min.).

20.58 from Le Mans (3 hr. 33 min.), and Chartes (1 hr. 26 min.).

21.45 through carriages from Bordeaux in 15 hr., La Rochelle (10 hr. 58 min.), Nantes (6 hr. 55 min.), Angers (5 hr. 18 min.), Le Mans (3 hr. 11 min.), and Chartres (1 hr. 22 min.).

In addition to these services, the timetables show trains by the Paris-Orleans line to La Rochelle *via* Poitiers, a day and night service, with sleeping cars, in 8 hr. 40 min. and 9 hr. down, and 7 hr. 46 min. and 9 hr. 10 min. up. The night trains had sleeping cars, and the day trains took 4 hr. down and 4 hr. 11 min. up between Paris and Poitiers (336 km.). These day trains were described as *Rapides*, whereas all others were only *Express*. In May, 1944, this latter service had gone, though there was a connection three times a week from Poitiers to La Rochelle and two connections three times a week in the reverse direction. The best Paris-Poitiers times were then 5 hr. 47 min. down and 5 hr. 24 min. up.

All trains referred to above were, of course, the express services, but all sections of the line had in addition one slow train each way

a day, usually with a second two or three times a week. These slow services were affected only slightly by the new tables in May.

At one branch line station I visited I found the train recording book, and discovered that the last "German-controlled" train had run on June 5, after which time the book was, of course, blank!

Yours faithfully,

E. S. RUSSELL (Capt.).

Railways' Expenditure on Research

Middlesex. October 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Perhaps I might make one or two comments on the letter from "Statistician" last week on the subject of research. He stated that "In 1923 no less than 3,894 engines, or 16 per cent. of the total stock, were unserviceable. By 1938 the number of engines under or awaiting repair was less than 1,200, or about 6 per cent. of the stock." I have checked these figures and find that they relate only to locomotives under and awaiting repair in workshops. They are therefore not a true comparison of engines temporarily out of service, as they do not take account of running sheds. "Statistician's" criticism that the increase of 21 per cent. in miles run is overstated by half and can be tested another way:—

Between 1923 and 1938 the relevant L.M.S.R. figures were:—

The locomotive stock was reduced in numbers by 2,752 or 26 per cent. and in engine weight by 62,676 tons or 14 per cent.

The numbers of separate types was reduced by 251 or 62 per cent.

The total engine mileage increased by 342,795 or 0·2 per cent.

The engine miles per weekday per locomotive *in use* (*i.e.*, after allowing for unserviceability) increased by 20 miles or 21 per cent.

It will be seen therefore that these actual results confirm the improvement given in your article and refute "Statistician's" criticism.

As to the reason for the increase in engine mileage by 1937, this is surely that the distance hauled had increased. For example, between 1923 and 1938 the passenger miles of the four railways increased by 3 per cent., although the number of passengers decreased by 13 per cent. and the receipts by 16 per cent.

The reason for the reduction in engine mileage during the war is mainly the reflection of decreased passenger mileage. Although the loading of the passenger trains has much more than doubled, the mileage has been reduced by nearly a third, and which reflects a great growth in parcels, mails, etc. traffic. The measure of the work or effort is seen in the following figures for the four railways:—

	1937	1943	Increase or decrease 1943
Passenger miles	20,115,000,000	32,210,000,000	+ 60 %
Passenger train miles ...	28,111,000	202,100,000	− 28 %
Freight ton miles	17,935,000,000	24,357,000,000	+ 36 %
Net revenue...	£37,902,000	£40,280,000	+ 6 %

Yours faithfully,

A. J. P.

The Coal Crisis

Somewhere in coal-starved England, October 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In the wartime notices that appear on the first page of each issue of *The Railway Gazette*, you ask for readers' indulgence for errors that they may observe.

On p. 349 of the issue of October 13, the concluding words of your excellent article "A Lesson from the Coal Industry" read "State control of major industries."

Should this not read "State control by a MAJOR of the Coal Industry"? "Every man to his trade"—majors to the army.

Yours etc.,

PLAIN SPEAKER

Local Railway Museums

22, Heatherfield Road, Huddersfield. October 4

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I read the letter published in your September 8 issue from three correspondents on the subject of "Local Railway Museums" with a very sincere desire to endorse their suggestion. I have for many years "pottered" about in the field of railway antiquity and discovered two fundamental things, namely:—

(*a*) That hardly any district in these islands is without its contribution to railway antiquity.

(*b*) The rich cultural heritage of our railways.

I can imagine that it is not easy for a board of railway directors to appreciate these facts as being at once an important responsibility and a splendid imaginative opportunity. The day will certainly come when the great private enterprises of this age will be assessed not so much by their commercial efficiency as by their contribution to the common culture.

So let me conclude by suggesting that wherever the railways have a tale to tell let it be unearthed, and suitably illustrated by whatever relics are available, to show to the public, if only in glass wall cases around station waiting rooms.

Yours faithfully,

WILLIAM B. STOCKS

Publications Received

Descriptive Diagrams of the Locomotive (including Diesel Rail Cars). By A. F. Hunt (Instructor, Oxford and Oswestry Improvement Classes). Published by Wilding & Son Ltd., 33, Castle Street, Shrewsbury. 5½ in. × 8½ in. 63 pp. Illustrated. Price 2s.—This represents the eleventh (enlarged) edition of a book prepared for the purpose of providing clear descriptions of the working and design of one or more types of each blast pipe, superheater, injector, lubricator, slide valve, piston valve, link motion, valve gear, ejector, vacuum brake, and so on. The text is assisted by a large number of excellent line drawings, and many points are discussed and instructions given. The last few pages are devoted to a lucid description, assisted by diagrams, of a diesel railcar, with particular reference to motors and transmission; and there is included a comprehensive section on the driving of railcars. The book is attractively presented and adequately indexed.

Standards Review: Period Review of the British Standards Institution. Vol. 1, No. 1, May, 1944. Quarterly. London: British Standards Institution, 28, Victoria Street, S.W.1. 8½ in. × 5½ in. 32 pp., paper cover. Illustrated. Price (to non-members of the B.S.I.) 2s., post free inland, or at subscription rate, payable in advance, of 7s. a year.—In the course of an introductory paragraph in the first issue of *Standards Review*, Sir Percy Ashley, Chairman of the General Council of the British Standards Institution, 1939-44, states that "standardisation is a term often misunderstood, and it is hoped that a periodical review of standardisation activities in this and other countries will lead to a better and wider understanding of its real nature and its great importance, not only to the war effort, but also for the development of a peacetime industrial economy." He adds that the periodical is to be issued in response to many suggestions that the work of the B.S.I. be given greater publicity, but that it will not be limited to that work; it will include information as to progress in other countries, and as to co-operation between the B.S.I. and other national standard bodies. In addition to articles on various aspects of standards work, which it is understood will represent a regular feature of forthcoming issues, the first number contains a brief description of the constitution and work of the B.S.I.; an article entitled "Standardisation: What's in a Name. . . .?"; and an account of the B.S.I. library service. It is recorded that Sir William Reavell (Chairman of the General Council in 1936) has resigned the Chairmanship of the Engineering Divisional Council and of various committees of the B.S.I., including the Mechanical Industry Committee, of which Sir William Stanier (lately Chief Mechanical Engineer, L.M.S.R.) has been appointed Chairman. Sir William Reavell has become a co-opted member of the General Council. The publication is attractively presented.

Tooling Economy.—In the interest of all machine tool and small tool users, the Machine Tool Control of the Ministry of Supply has issued a leaflet, No. 10, which indicates the importance of obtaining the maximum working life of cutting tools and of economies resulting from their correct servicing. Research has shown that machine-ground and honed cutting tools, by virtue of the keenness of the cutting edges and smoothness of the relieved faces, are superior to those produced by hand or rough grinding. Tools ground by hand show a cutting edge roughness of 50-85 micro-inches, depending on the abrasive wheels used and the care exercised. It is these tiny "peaks" which break off or rapidly wear down, thus heating the tool excessively, creating high stress, dulling the tool and necessitating frequent regrinds. By precision grinding and careful honing, finishes of 3-7·5 micro-inches are obtained which permits increased cutting feeds and speeds, extends the intervals between regrinds and consequently prolongs the life of the tool. This useful leaflet gives some good pictorial examples of right and wrong methods in "toolmanship" and should do much to further the purpose for which it is designed.

The Scrap Heap

Bureaucracy is part of the price that Britain has paid for victory. There has grown up a vested interest in control.—*From "The Daily Mail."*

* * *

MONDAY'S MISHAPS

There was a "minor epidemic" of rail hold-ups on the London main and underground lines last Monday.

Outside Paddington (G.W.R.) the derailment of an engine caused two coaches of the "Cornish Riviera" to be derailed. The train left 35 minutes late; normal working was resumed with the departure of the 7.5 train the next morning.

A train that was too long caused a minor hold-up at Euston (L.M.S.R.) just before 9 a.m. The 7.12 from Bletchley arrived with an extra coach, and the train was too long for the platform.

Following trains on suburban services could not get to their platforms and were delayed for about twenty minutes.

Up traffic on the Brighton-London Southern Railway line was delayed when a truck was derailed at Burgess Hill at 4.10 a.m. The line was cleared by 8.14 a.m.

A train defect caused an hour's delay on the southward-bound Northern Line between Kings Cross and the Angel at 9.15 a.m. An alternative bus service was provided.

* * *

The Roman Railway Company has opened a direct route from Naples to Florence in twenty hours, 93f. first class. The annoyance of changing carriage at Isoletta, the confine of the Naples Kingdom and Papal States, is over.—*From "The Illustrated London News" of February 4, 1865.*

* * *

DEAD STAG ON BAKERLOO LINE

Driver of a Bakerloo Line train saw a dark object on the line between Queensbury and Canons Park Station during blackout hours recently.

He pulled up just in time, climbed from his cabin, and found—a dead stag. It had probably been electrocuted. Police and railway officials are trying to find its owner.

* * *

NAMES OF STATIONS

A suggestion has appeared that station nameboards should be set at an angle facing approaching trains instead of parallel to them. This overlooks the fact that while improving the view of those facing the engine, it would impair the view of those who sit with their backs to the engine.—*Mr. C. Grasemann in a letter to "The Daily Telegraph."*

* * *

Travelling "courts and lock-ups" are reported to have been introduced on the Patna-Gaya section of the East Indian Railway, in connection with the drive against persons who travel without tickets. Each train has a coach with accommodation for two magistrates and their "court-rooms," and two third class carriages, the windows of which have been fitted with bars, to serve as travelling "lock-ups." Large numbers of ticket inspectors accompany the train, and travellers found without tickets are placed in the "lock-ups." It is stated that the measure on the Patna-Gaya section is by way of an experiment, and that if successful, the scheme will be extended to other sections.

* * *

V2—Exclusive

"Utac" writes: "In view of the many rumours and reports that are now current about Germany's various secret weapons, V2, V3, etc., I concocted the following and have tried it out on some of my friends in the Civil Defence services. The results have been somewhat mixed, as may be imagined. When they ask for further particulars, I point out to them that it is a perfectly accurate description of V2, and then add: 'The L.N.E.R. locomotive class'."

The following details are now available.

V2 was put into experimental production as long ago as 1936, but production has been greatly stepped up during the war years, and in 1943 and 1944 delivery has been at a much faster rate. .

Contrary to general belief, propulsion is by hot compressed gas, produced from solid fuel carried in a trailer attached by a flexible member to the main body of the V2. The explosive is also hot gas, compressed to a pressure of about 14 tons to the square foot. This explosive is contained in a cylindrical barrel 17 ft. long and approximately 5 ft. 9¼ in. in diameter. In order to conserve the heat of the explosive gas (and to protect it from atmospheric changes) this barrel is lagged with some heat-insulating compound.

Unlike the flying-bomb (V1), V2 has no wings; control of direction is ensured by the rails at the moment of launching. The maximum height at which V2 can travel is not yet known. At night, V2's progress can be spotted by its semi-luminous exhaust, which appears from a small opening just above the nose of the barrel.

The speed of V2 is much lower than that of the flying-bomb. About 100 m.p.h. seems to be the highest yet recorded, but speeds of 60-70 m.p.h. are more usual.

The front portion has a total weight of 93 tons, and the trailer portion weighs a further 51 tons. By the time V2 has expended all its fuel and is about to conclude its journey, the total weight of 144 tons has been reduced to approximately 100 tons. The overall length is nearly 66½ ft., made up as follows: barrel (explosive container) portion 42 ft., trailer portion 24 ft., with a 6-in. flexible joint between them.

So far, very few casualties have been caused in this country by V2, although the blast is very powerful.

* * *

TAILPIECE

(Lighting at railway stations has been much improved)

The lights are springing up again
In Charing Cross and Waterloo,
How easily we find the train
At Paddington and Euston too!

Yet what we value more than this,
A pleasure near high water mark,
Ability to read—what bliss—
In flood-lit coaches after dark.

This lighting of our homeward way
Denotes the shape of things in store,
And brings to mind that happy day
When railways seek us as of yore.

They'll woo us with their might and main
And lower fares, print posters bright,
Into our own we'll come again;
The passenger is always right.

A. E. C.

"We shan't 'alf fill up at Exeter"

[Reproduced by permission of the Proprietors of "Punch"]

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Employment for Demobilised Soldiers

The Railway Administration recently announced details of its plans, referred to in *The Railway Gazette* of April 14 last, for the re-employment of 14,000 men on active service and for the employment of an extra 2,500. The administration will work in close collaboration with the Directorate of Demobilisation, and its post-war construction and improvements programme will provide an extensive field for employment.

A special organisation has been set up in the office of the General Manager for the interview of all returned soldiers, including non-railwaymen seeking employment. Personnel absorbed into the railway service will be trained; and all servants who have been on full-time military duty will be reinstated and given refresher courses. Special training courses have been sent to all prisoner-of-war camps in Germany in which there are members of the Administration's staff, to help them to form study circles.

Credit will be granted for military service in determining remission in apprenticeship in the case of those entering apprenticeship on their return. In the case of those men who were apprentices on attestation, advancement in pay is to be accorded on the basis which would have applied had they remained in their civil occupations. Their wages will be advanced to the journeyman scale even though their apprenticeship may not have been completed. Members of the staff who have suffered a disability on active service are treated as though they had been injured in an accident arising out of and in the course of their employment. This does not prejudice their claims to military pensions.

Subject to the lingual qualifications of the clerical staff, those on full-time military service are to be considered for the purpose of advancement, as having obtained the qualifications and experience relating to their positions which they reasonably could have obtained, had they not gone on active service.

No person who is not a discharged soldier is to be appointed to any post in the service until it has been established that no suitable discharged soldier is available for that post.

UNITED STATES

The Santa Fe "Chief" Derailed

On July 3 the locomotive, and twelve of the fourteen vehicles, of the well-known "Chief" of the Atchison, Topeka & Santa Fe Railway System were derailed, shortly before midnight, about 20 miles from Flagstaff, Arizona. This express (not to be confused with the diesel-hauled streamliner "Super-Chief" over the same route) is an all-Pullman extra-fare train which runs daily over the 2,272 miles between Chicago and Los Angeles, and is normally hauled by steam locomotives. The derailment took place at the end of a curve of 22 ch. radius; the fireman and three passengers were killed, and several other passengers were injured. The locomotive turned completely round and fell on its side; four mail and express vans piled up on it and the fifth vehicle, a sleeper, ran into the wreckage; the next three carriages turned over, but the next four, although derailed, remained upright.

Two months previously new 131-lb. rail, double-spiked, had been laid along this stretch, and surfaced. About 600 yd. of track was destroyed, and, to cause minimum interference with traffic, a temporary avoiding line was laid around the wreck. The speed restriction for the curve is 55 m.p.h., and as yet it has not been established whether the derailment was caused by speed, an obstruction on the track, or something dragging under the locomotive.

Central of New Jersey Suburban Changes

To do away with individual coach dynamos and batteries, the Central Railroad of New Jersey is equipping 20 steam locomotive tenders with steam-driven turbo-generators of sufficient capacity to light the whole of their trains. Equipment is to be provided for 100 passenger coaches, and later plans provide for fitting 40 more locomotives and 200 more carriages in the same way. The whole of the suburban passenger service then will operate with this head-end method of illumination.

Another suburban alteration on the part of this company, effected from the end of July last, has been the shifting of passenger trains from the centre to the outside tracks on the four-track section between Jersey City and Raritan. Access to and from the trains at most stations is on the level, across the tracks. During rush hours it is still necessary to run some of the passenger trains on the inside lines, but their number is relatively small.

ARGENTINA

Covered Wagons of the Future

One of the subjects discussed at a recent "open forum" meeting of the Argentine & River Plate Centre of the Institute of Transport was "what would be the ideal general-utility covered wagon of the future?" In introducing the subject for discussion, Mr. P. Goddard, Traffic Manager, Central Argentine Railway, mentioned that, as a large number of wagons would have to be ordered in the near future for Argentine railways, any ideas put forward would be valuable; if there was one type of covered wagon which would be considered ideal as to design, there was the important point of its capacity on which to decide. Some railway mechanical engineers contended that only bogie stock should be constructed, as they had strong objections to the four-wheel wagon. Some trades wished to send relatively small consignments at "wagon-load" rates, and traffic managers had to support a rate structure which catered for such loads or else lose the traffic to the roads. Operating superintendents were expected to run wagons well loaded, and it was not difficult to realise the importance of keeping the pay loads of trains in as great a ratio as possible to total weights. If it was considered that a small wagon was necessary for economical working, and to keep down first costs of wagon stock, at least two different sizes of wagons were needed, and some might go further and recommend three sizes, because there could be no doubt that the high-capacity covered wagon was ideal for carrying economically the grain which formed such a large percentage of Argentine traffic. Consequently, high-capacity and low-capacity wagons must exist.

Continuing, Mr. Goddard asked what features of design were necessary to provide the *ideal* general-utility wagon in each size? There were numerous features to be taken into consideration, such as: (*a*) low proportion of tare load to load limit; (*b*) highest cubic capacity consistent with medium length; (*c*) good ventilation, yet proof against rain, sparks and loss of bulk grain; (*d*) good lining and sufficient insulation to prevent overheating in hot weather; (*e*) non-skid floor, but smooth enough to allow for easy cleaning; (*f*) rings or other provision to allow of securing loads by ropes or chains; (*g*) doors to be of maximum height and good width; (*h*) two-axle wagons to be provided with supplementary springs to counteract rigidity and avoid derailment on bad track. Finally, it should be remembered that every metre of extra length over that required to hold the weight and volume to be carried increased wind resistance to trains, and reduced proportionately the holding capacity of sidings.

BRAZIL

Paulista Railway Improvements

Extensive improvements are planned on the Paulista Railway, which operates in the State of San Paulo. Twelve electric locomotives and 500 bogie box wagons are to be purchased. Two sections of the main line at present of single track, one 19 miles and the other 23 miles long, are to be doubled; the 19-mile section is to be laid with rails 111 lb. per yd., and electrified. A further 41-mile section of line also is to be electrified. Continuous rail-welding over certain sections of track is proposed. Tools and equipment are to be bought for the company's locomotive, carriage and wagon shops.

SPAIN

Road Trains Proposal

An important development in the province of Vizcaya is envisaged with the proposed manufacture of motor-lorry trailers. There is practically no production of lorry trailers in Spain, but the demand for this type of vehicle is increasing, to meet the general trend towards cheaper transport. Spain depends on imported oil fuels and it is stated that the transport capacity should be increased by the use of as many trailers as possible. The development of the trailer industry would be less costly than the building of lorries, and all the materials could be produced in Spain, with the exception of the rubber tyres. According to estimates made by Basque industrialists, the large-scale use of trailers would result in approximately a 30 per cent. reduction in transport costs compared with present rates.

CEYLON

Railway Budget

In the budget of the Ceylon Government Railway for 1944-45, earnings are estimated at Rs. 45,000,000, an increase of Rs. 3,000,000 over the current year's original estimate. The latter has now been revised and amounts to Rs. 45,000,000. Expenditure for 1944-45 is estimated at about Rs. 36,126,000. The gain on the working during the year on the basis of the above estimates would be about Rs. 8,874,000, of which it is proposed to transfer Rs. 3,000,000 to the recently-established railway deferred maintenance reserve.

XUM

Proposed Pullman Three-Deck Coach for U.S.A. Business Travel

Some further details of the Threedex

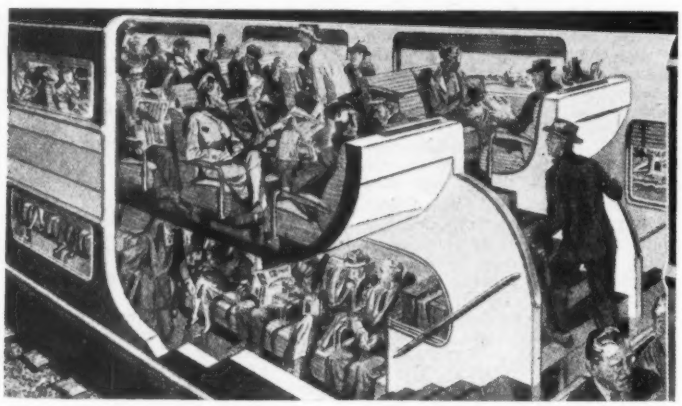
IN our September 15 issue an illustration was given of a three-deck streamline coach, which will seat 112 passengers and which has been designed by the Pullman Standard Car Manufacturing Company, U.S.A., for post-war manufacture. Some further details and the accompanying illustrations have now reached this country. The coach, which is known as the Threedex, has been designed recently for post-war building, and it is intended primarily for use on services catering for heavy season-ticket business travel. The coaches are to be air-conditioned, and provision is made for individual reading lights, and space for stowing luggage out of the way of passengers.

On the lowest deck, seating is arranged so that the occupants face the outer sides of the coach, and on the top deck seats are arranged to face fore and aft, as shown in the accompanying illustration. The middle deck contains at each end two comfortable semi-private sections for cards and other games. Each of these sections has seating for four persons.

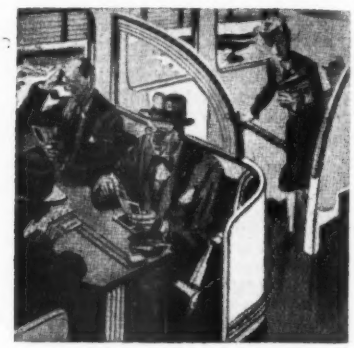
The coaches are provided with tastefully designed and carefully planned retiring rooms, which are equipped with modern rest-room fixtures and lighting.

Four side entrances to the car, one on each side at each end, are provided on the middle level. From this middle level, which is at the same height as present coach floors, two side stairways lead to the lower deck and one central stairway leads to the top deck. The lower deck is about five steps below, and the upper five steps above, the middle deck; the height of the car is about 13½ ft. The lowest level contains two rows of 22 outward-facing seats placed back to back with aisles on each side of the car. Wide windows are incorporated in the design, and general artificial illumination is supplemented with special focused lighting at the reading level in each seat.

Although the coach has been designed primarily for services largely used by season ticket holders, care has been taken to make the basic design as flexible as possible, so that the arrangement of the interior can be changed to adapt the vehicles for long-distance travel. The Pullman Standard Car Manufacturing Company has made plans for a dozen variations of the standard design so as to conform to the requirements of practically every American Railway. In modified versions of the coach, designed for long-distance travel, it has been necessary to sacrifice some capacity, but as a result more individual comfort, including reclining seats for sleeping, has been introduced.



General impression of the seating arrangements on the top and lowest decks



One of the semi-private sections at the ends of the middle deck

The Railway Position in South-Eastern Switzerland

The amalgamation of the Rhaetian and Bernina Railway Companies, which, as was recorded briefly in our July 14 issue, has been approved officially, to take effect as from last January, marks a point of considerable interest in the history of the railways of south-east Switzerland. The former line has its headquarters at Chur, in the Canton of Grisons; it is on the metre-gauge and electrified throughout, nearly all on the single-phase system. Before the recent amalgamation, its total length was 208 miles. The 16-mile Chur-Arosa line and the 20-mile Bellinzona-Mesocco line were incorporated in the Rhaetian system on January 1, 1942. The Rhaetian Railway, by agreement, has worked the 36-mile line of the Bernina Railway between St. Moritz and Campocologno (which extends for a short distance across the Italian frontier to connect with the Valtellina line from Tirano to Sondrio) since January 1, 1942; but, until the amalgamation, the companies remained separate.

The amalgamation of the railways in this region is a preliminary to obtaining Federal and Cantonal assistance; with the exception of the Bellinzona-Mesocco line, which is in Ticino, all those in question are in the Canton of Grisons. Such aid as has already been given has enabled a number of improvements to be made to the Rhaetian lines, in connection, among other matters, with modernisation of stations, colour-light signals and improved block apparatus. The overhead equipment on the Chur-Arosa line, erected in 1914, and on the Bernina line, erected in 1909-10, is to be replaced by present-day construction, and the two routes are to be converted to the 11,000-volt single-phase system, in general use on the original Rhaetian lines. The Bellinzona-Mesocco section, on which the equipment was erected in 1907, also will be dealt with in due course, when connection is made into the Federal Railways station at the former place. At present, the Mesocco line terminus lies to the west of the Federal station and crosses the Gotthard route about a mile away, connecting with it at Castione about another mile on.

The service was maintained on the Furka-Oberalp line throughout last winter. The scheme evolved by the Rhaetian Railway for the amalgamation of the Disentis-Andermatt-Brigue line, with the Andermatt Göschenen branch, which joins the Gotthard route at Andermatt, provides for three trains each way daily between Disentis and Brigue throughout the winter.

The introduction on May 8 of two railcar services daily in each direction between St. Gall and Chur was a welcome improvement in the means of communication in the Grisons and between it and the rest of Switzerland.

The fares on the Rhaetian Railway are among the highest in the country, as a result of the so-called distance supplements. The problem of effecting the abolition of these supplements would be somewhat involved. These and the "mountain" supplements were eliminated on the Federal Railways as from January 1, 1943; and standard basic rates for the three classes of carriage were adopted. The basic rates on the Rhaetian Railway are higher, to begin with, and distance supplements for the mountain sections are added. The result is that a single ticket on the Federal Railways for 50 km. (31 miles) costs, first class, fr. 7·5; second class, fr. 5·25; and third class, fr. 3·75, respectively, whereas on the Rhaetian Railway the figures would be fr. 24·6, fr. 16·4, and fr. 8·2, the rates actually based on a distance of 82 km. (51 miles), with the distance supplements added. Were the latter abolished, the fares would still be appreciably higher than those of the Federal lines. The distance supplements may be dropped in the not too distant future, and the Cantonal authorities are said to expect that the Federal Government would assume the responsibility for compensating the railway.

Flat-Bottom Track in Great Britain—II

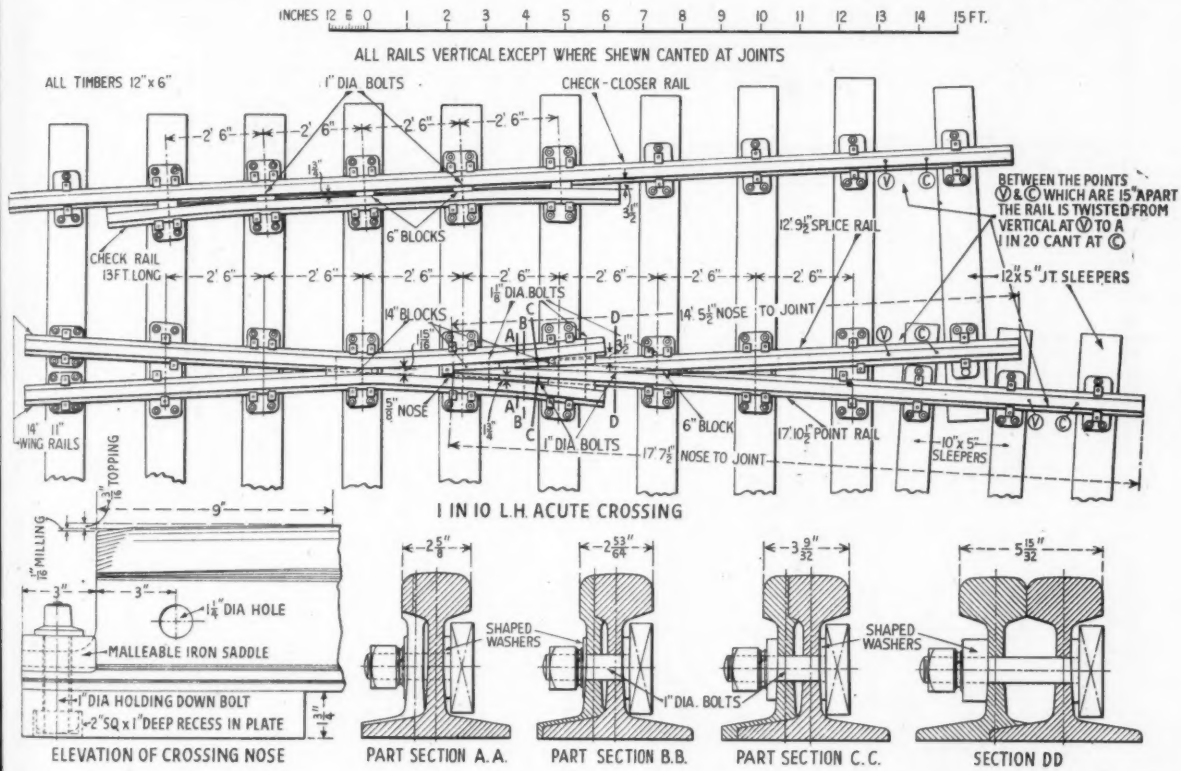
Last January the L.N.E.R. brought into use at Harringay the first running-line flat-bottom turnout in this country

THE first 110-lb. flat-bottom turnout, which is fully illustrated in the annexed drawings and photographic reproductions, incorporates a set of 21-ft. switches and a 1 in 10 acute crossing. Throughout the turnout the rails are vertical, and the change from the 1 in 20 tilt to the vertical at the switch end has been made by twisting the rails between the leading rail-joints and the toe of the switches, with a corresponding twist back from vertical to 1 in 20 between the last crossing baseplates and the rail-joints behind the crossing. In a later turnout the experiment will be tried of carrying the 1 in 20 tilt throughout, in order to avoid the necessity for twisting. The switches are of a loose-heel type, pivoting on two 20-in. cast-iron heel-blocks. Mild steel collars are fitted on the switch-rail side of the joint, to enable the fish-plates to be tightened up without interfering with the movement of the switch. A further experiment to be tried later will be the use of switch-rails continuous through the heel, and moved by springing, as is customary in bull-head rail switches.

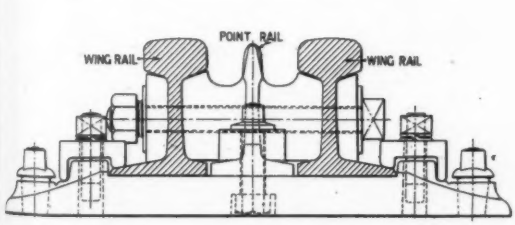
The planing of the switches has been designed so that the stock-rails shall be of full section throughout, and without any cutting of the foot to house the switch-rails. The switch-rails, however, are planed away on the underside to permit them to ride on the stock-rail feet in the manner shown in the sections. To avoid excessive cutting away of the foot, the switch rail is given a $\frac{1}{4}$-in. lift above the stock rail between the toe and the heel. This "lift" is run out at a gradient of 1 in 552 until both stock and switch closer rails are at the same level. For a distance of $7\frac{5}{8}$ in. ahead of the toe of the switch-rail, the stock-rail is set at an angle of 1 in 61, to cover the point of the tongue, and from the toe of the switch it is curved to a radius of 968 ft. The curved switch-planing extends backwards for 10 ft. $6\frac{1}{2}$ in. from the toe, and top planing of the tongues extends over the same distance; at the toe the upper surface of the tongue is planed down to $\frac{1}{2}$ in. below the running surface of the stock-rail.

The splice-rail of the crossing is housed on the foot and under the head of the point-rail, so giving a keying effect. At the nose, the head and web of the point-rail have been machined away, as in bull-head practice, to provide a 3-in. extension of the foot; this is secured by a saddle with 1-in. holding-down bolt, of which the head engages in a recess in the nose baseplate. The nose is $\frac{5}{8}$ in. thick, and $1\frac{3}{4}$-in. flangeways are provided through the crossing, opening out to $3\frac{1}{2}$ in. at the ends of the wings; the gap at the knuckle is $1\frac{15}{16}$ in. Three sets of 14-in. distance blocks are provided, at the knuckle, at the nose, and adjacent to the ends of the wings respectively; each set is secured by two $1\frac{1}{2}$-in. transverse bolts. An additional 6-in. block is provided at the baseplate immediately behind the end of the wings.

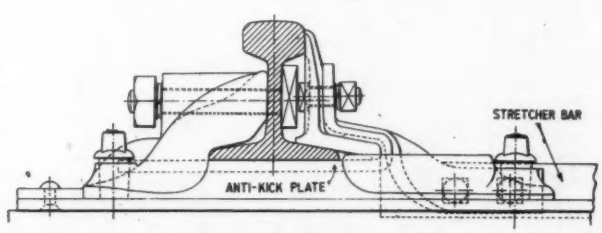
Throughout the turnout (except


INCHES 12 6 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 FT.
ALL RAILS VERTICAL EXCEPT WHERE SHEWN CANTED AT JOINTS
ALL TIMBERS 12"x 6"
1" DIA. BOLTS
CHECK-CLOSER RAIL
2' 6"
6" BLOCKS
CHECK RAIL 13FT LONG
BETWEEN THE POINTS Ⓥ & Ⓒ WHICH ARE 15" APART THE RAIL IS TWISTED FROM VERTICAL AT Ⓥ TO A 1 IN 20 CANT AT Ⓒ
12' 9½" SPLICE RAIL
12"x 5" JT SLEEPERS
14" BLOCKS
1⅛" DIA. BOLTS
14' 5½" NOSE TO JOINT
5" NOSE
14' 11" WING RAILS
6" BLOCK
17' 10½" POINT RAIL
10"x 5" SLEEPERS
17' 7½" NOSE TO JOINT
TOPPING
MILLING
1¼" DIA HOLE
MALLEABLE IRON SADDLE
1" DIA HOLDING DOWN BOLT
2"SQ x 1" DEEP RECESS IN PLATE
1 IN 10 L.H. ACUTE CROSSING
ELEVATION OF CROSSING NOSE
SHAPED WASHERS
PART SECTION A.A.
PART SECTION B.B.
PART SECTION C.C.
SECTION DD

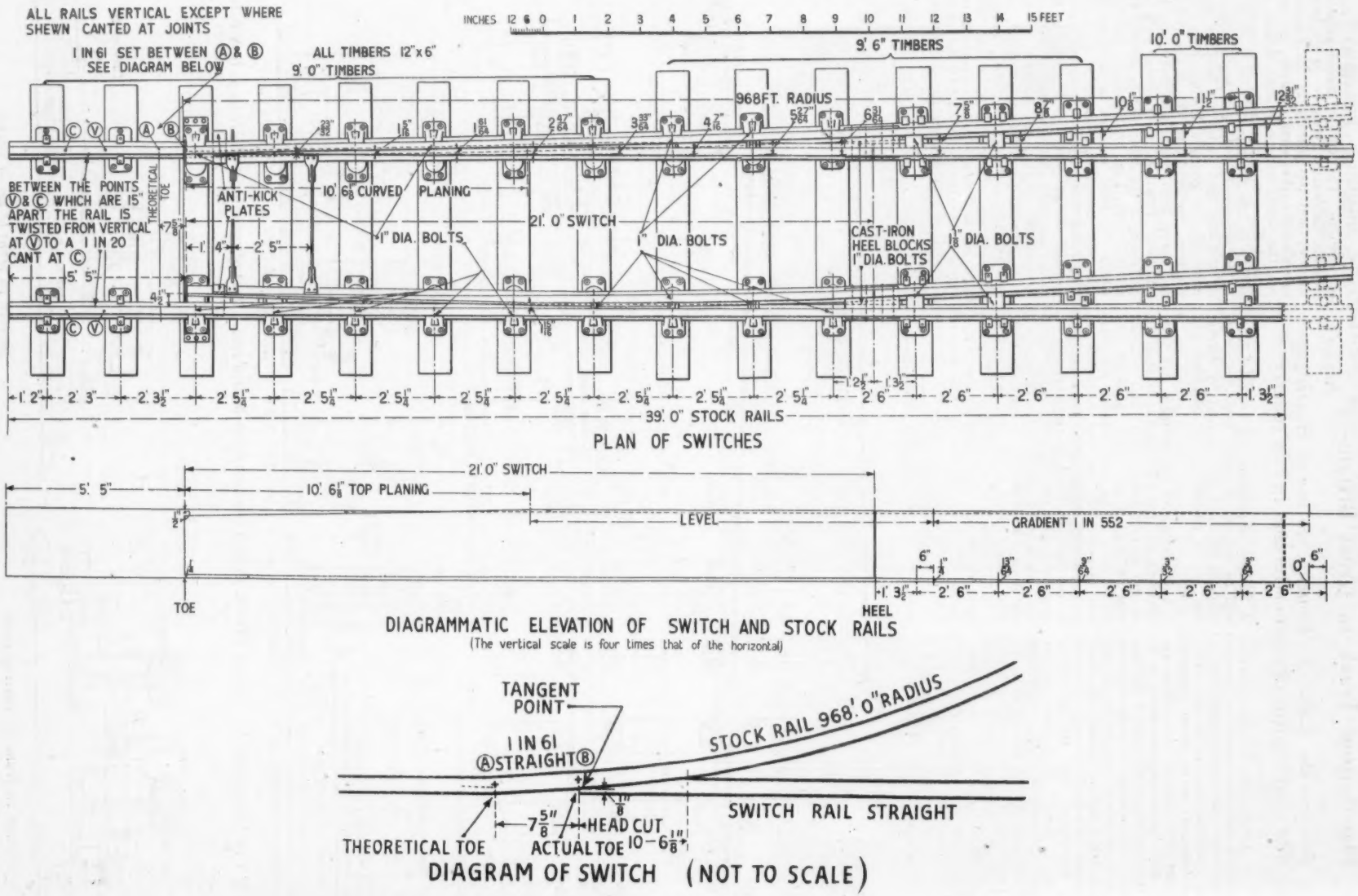
Details of 1 *in* 10 *common crossing in* 110*-lb. British Standard flat-bottom rail. Part of turnout at Harringay, L.N.E.R.*



Section in front of crossing nose



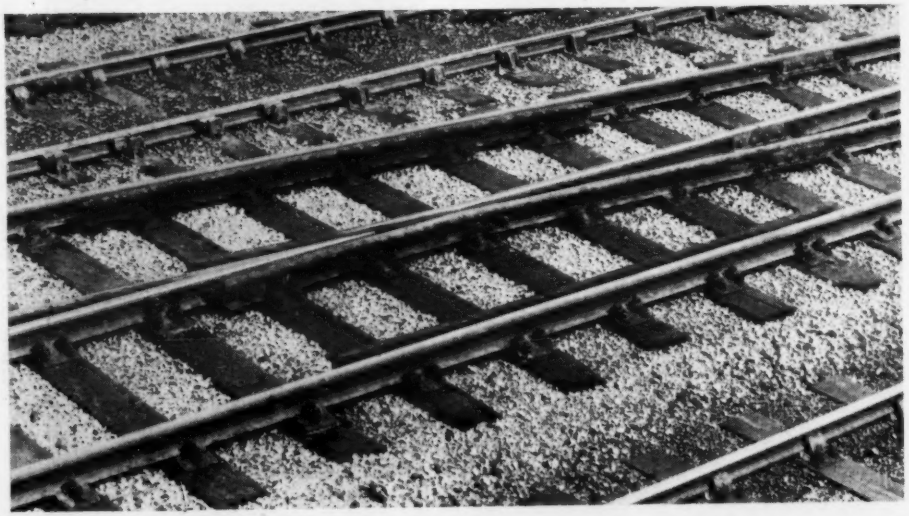
Section in front of toe of switch


ALL RAILS VERTICAL EXCEPT WHERE SHEWN CANTED AT JOINTS
1 IN 61 SET BETWEEN Ⓐ & Ⓑ SEE DIAGRAM BELOW
ALL TIMBERS 12"x6"
9' 0" TIMBERS
INCHES 12 6 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 FEET
9' 6" TIMBERS
10' 0" TIMBERS
968FT. RADIUS
BETWEEN THE POINTS Ⓥ & Ⓒ WHICH ARE 15" APART THE RAIL IS TWISTED FROM VERTICAL AT Ⓥ TO A 1 IN 20 CANT AT Ⓒ
THEORETICAL TOE
ANTI-KICK PLATES
10' 6⅛" CURVED PLANING
21' 0" SWITCH
1" DIA. BOLTS
CAST-IRON HEEL BLOCKS 1" DIA. BOLTS
1⅛" DIA. BOLTS
5' 5"
1' 4"
2' 5"
39' 0" STOCK RAILS
PLAN OF SWITCHES
21' 0" SWITCH
10' 6⅛" TOP PLANING
LEVEL
GRADIENT 1 IN 552
TOE
HEEL
DIAGRAMMATIC ELEVATION OF SWITCH AND STOCK RAILS
(The vertical scale is four times that of the horizontal)
TANGENT POINT
1 IN 61
Ⓐ STRAIGHT Ⓑ
STOCK RAIL 968' 0" RADIUS
SWITCH RAIL STRAIGHT
THEORETICAL TOE
ACTUAL TOE
HEAD CUT
DIAGRAM OF SWITCH (NOT TO SCALE)

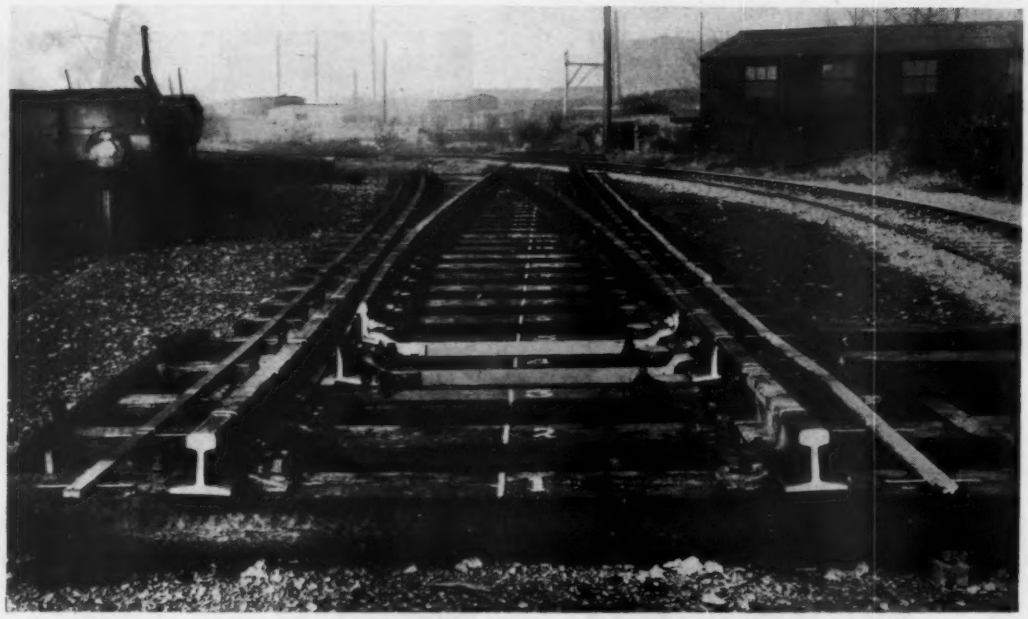
Details of switches in 110-lb. British Standard flat-bottom rails. Part of turnout at Harringay, L.N.E.R.

Details of switches in 110-lb. British Standard flat-bottom rails. Part of turnout at Harringay, L.N.E.R.

Left: General view of 110-lb. flat-bottom running line turnout, the first in British service, laid in at Harringay, L.N.E.R., January, 1944.
Right: View of crossing and connection with existing work



Left: General view of crossing. Right: Crossing nose and wing rails. Note hook bolts and clips, and separately fastened baseplates

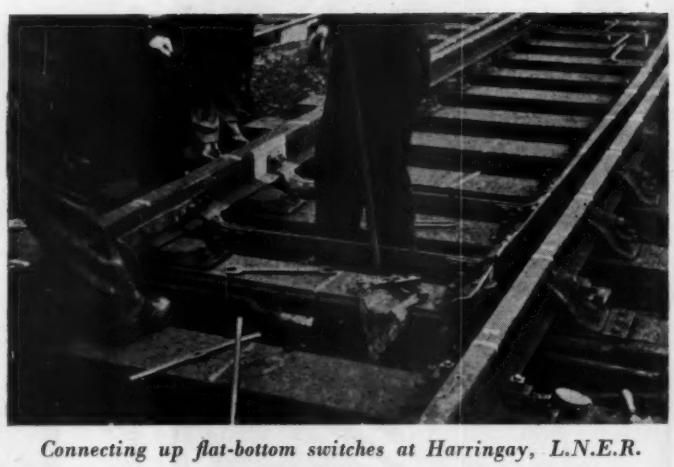


1 *in* 10 *turnout assembled on timbers at Sandiacre*

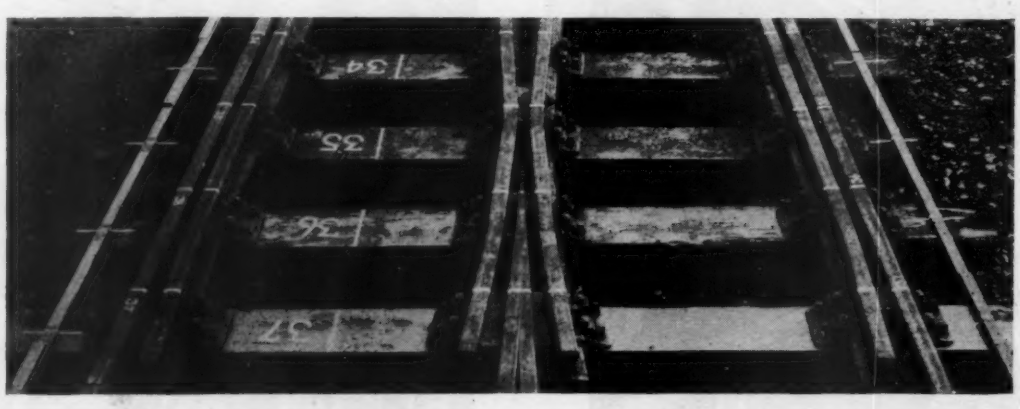
between the toe and the heel of the switches, where the stock-rails are bolted in chairs closely resembling the bull-head type), the rails rest on cast iron baseplates, with the hook-bolt and clip type of fastening, and the baseplates are secured to the timbers by chair-screws. An advantage of the hook-bolt type of rail fastening (as compared with through bolts) is that all plates can be left screwed in place on the timbers when switch-and-crossing work is being moved from an assembly yard to the site where it is to be laid in.

In the design of this switch and crossing, Taylor Bros. (Sandiacre) Limited collaborated with the L.N.E.R. Chief Engineer's Department, and the first turnout to his design, manufactured and assembled on timbers at the Sandiacre works, has now been in service for some nine months past at Harringay, in a location carrying heavy traffic (but no high speed), and is giving every satisfaction.

(*Concluded*)



Connecting up flat-bottom switches at Harringay, L.N.E.R.



Crossing nose, wing, and check rails assembled at the manufacturer's Sandiacre works

RAILWAY NEWS SECTION

PERSONAL

Sir Clive Baillieu and Mr. K. H. Preston have been elected Directors of the Midland Bank Limited and of the Midland Bank Executor & Trustee Co. Ltd. Sir Clive Baillieu is Chairman of the Federation of British Industries Empire Committee, and a Director of the Dunlop Rubber Co. Ltd. and other companies. Mr. Preston is Chairman & Joint Managing Director of J. Stone & Co. Ltd.

Mr. C. E. Luxton, Manager of the Electric Tool Division of the Consolidated Pneumatic Tool Co. Ltd., has been granted indefinite leave of absence, as from October 1, to take up an appointment as Technical Adviser on Portable Electric Tools to the Director of Industrial Electrical Equipment, Machine Tool Control.

By an Order of the King of Sweden, the term of office of Herr Gustaf O. V. Dahlbeck, General Manager of the Swedish State Railways, has been extended to December 31, 1949.

We regret to record the death at Stroudsburg, Pennsylvania, at the age of 71, of Mr. William Henry Jones, C.B.E., British Ministry of War Transport representative in the U.S.A.

Mr. Joseph L. Sheppard, Freight Traffic Manager (Rates), Illinois Central System, has been appointed General Traffic Manager.

The late Rt. Hon. Lord Clyde, Lord Justice-General for Scotland and Lord President of the Court of Session from 1920 to 1935, who formerly had a large practice in Scotland and held retainers for the Caledonian Railway Company and several other Scottish railway companies, left £50,231.

Mr. H. M. Moffat, for many years in charge of Docker Brothers exports, and latterly London Manager, has joined Vulcan Products Limited as General Sales Manager.

CANADIAN NATIONAL RAILWAYS

The C.N.R. announces the following appointments, with effect from September 1:—

Mr. A. M. Kirk, General Passenger Agent, Montreal, has been appointed to the new position of Passenger Traffic Manager, Central Region, with headquarters at Toronto.

Mr. W. E. Norton, Chief of Tariff & Ticket Bureau, has been appointed Assistant Passenger Traffic Manager, Montreal.

Mr. M. E. Doke, General Tourist & Convention Agent, has been appointed General Passenger Agent, Montreal.

Mr. R. C. Gadsby, District Passenger Agent, Toronto, has been appointed General Passenger Agent, Central Region, Toronto, *vice* Mr. H. C. Bourlier, retired.

Mr. H. C. McLaren, Assistant Chief of Passenger Tariff Bureau, has been appointed Chief of Tariff & Ticket Bureau.

Mr. G. C. Laughton

Agent & General Manager, Bombay, Baroda & Central India Railway, 1938-42; General Manager, 1942-44

Mr. G. C. Laughton, C.I.E., A.M.Inst.C.E., M.Inst.T., A.C.G.I., J.P., who, as recorded in our April 21 issue, has retired from the position of General Manager of the Bombay, Baroda & Central India Railway, was born on January 26, 1887. He was educated at Seafield Park College and passed into the City & Guilds Central Technical College, South Kensington; he graduated as A.C.G.I. in 1909. He gained practical experience under the Chief Engineer of the former London & South Western Railway, and in 1910 was appointed by the Secretary of State for India to be an Assistant Engineer in the Railway Branch of the Indian Public Works Department, now the Indian Railway Service of Engineers. For the next nine years Mr. Laughton was engaged on survey, construction, and open-line maintenance work on the former Oudh & Rohilkhand (State) Railway, now part of the East Indian Railway; during the latter part of that period he was Executive Engineer. He was Personal Assistant to the Chief Engineer from 1919 to 1921, and then was appointed Superintendent of the Kalka-Simla Railway, which position he held until 1925. On transfer to the North Western Railway he was appointed Divisional Engineer, and in 1926 he was promoted to Divisional Superintendent. For a short time Mr. Laughton was Superintendent of Works, and, in 1929, became Deputy-Director of Civil Engineering with the Railway Board; he was appointed Director in 1931. After a short time as Secretary to the Railway Board in 1932 he was appointed Senior Government Inspector of Railways, Circle No. 7, Madras, with headquarters at Bangalore, which post he vacated to accept that of Deputy-Agent of the Bombay, Baroda & Central India Railway. After a short period in that position, he was appointed, in 1938, Agent & General Manager; he relinquished the position of Agent when he became General Manager of the railway on its working being handed over to the Government in January, 1942. Mr. Laughton was President of the Indian Railway Conference Association for 1942-43. He was made C.I.E. in 1942.

Mr. A. E. Osborn, Acting General Manager in Manchester of the Dunlop Rubber Co. Ltd., has been appointed General Sales Manager of a new division for special products, particularly of an industrial type, with headquarters at Albany Street, London, N.W.1.

The appointments are announced also by the Dunlop Rubber Co. Ltd. of Mr. J. A. Powell as Traffic Manager in the General Rubber Goods Division at Cambridge Street, Manchester; and, in preparation for post-war expansion, of six Sales Managers: Messrs. P. A. Bridge (Hose & Belting), T. Donlan (Proofing & Suedette), F. Hyde (Mechanical & Roller Covering), E. Jones (Chemical Plant & Vulcanite), N. Jones (Flooring), and E. Sharp (Surgical & Toy).

Mr. E. X. Brain, B.Sc., who, as recorded in our September 15 issue, has retired from the position of Assistant Chief Civil Engineer, South African Railways & Harbours, was educated at Grey College, Bloemfontein, and later at the School of Mines & Technology (now the University of the Witwatersrand), Johannesburg. He joined the Central South African Railways in 1910, and for many years was engaged on survey and construction work. In 1927 he became District Engineer, Ladysmith, and shortly afterwards transferred to Durban in a similar capacity. He was appointed System Engineer, Kimberley, in 1931, and later to the corresponding post at Bloemfontein. Subsequently he became System Manager, Windhoek. In 1932 Mr. Brain was elected a member of the Economic Commission appointed to inquire into certain economic and financial relations between the Union of South Africa and the mandated territories of South West Africa. He was transferred to Johannesburg as Inspecting Engineer, on the staff of the Chief Civil Engineer, in 1935, and later was made System Manager, Kimberley. In 1938 Mr. Brain was appointed System Manager, Durban, and in 1942 to the position from which he has now retired.

Mr. P. J. Louw, B.A., B.Sc., M.Inst.C.E., System Manager, Bloemfontein, South African Railways & Harbours, who, as recorded in our September 15 issue, has been appointed Assistant Chief Civil Engineer, took his B.Sc. degree in pure science at Stellenbosch University before obtaining his engineering degree,

XUM

in 1915, at the University of Cape Town. He commenced his railway career in 1916 as a Pupil Engineer, and was appointed Assistant Engineer three years later. Thereafter he was employed on survey and construction work until transferred to maintenance at Cape Town in 1923. He became Senior Assistant Engineer in the Transportation Department, Cape Town, in 1926, and Assistant Superintendent (Maintenance) in the next year. Mr. Louw then served as District Engineer, successively, at Mafeking, Cape Town and Ladysmith, before being transferred, in 1936, to the System Manager's Office, Durban. He was appointed System Engineer, East London, in 1937, and to the similar position at Johannesburg in 1939. Early in 1942 he was made Acting System Manager, Windhoek, but in November of that year he returned to Johannesburg as Inspecting Engineer. He became System Manager, Bloemfontein, early in 1943. During 1940 Mr. Louw was appointed to serve on the commission investigating the labour conditions of non-Europeans on the South African Railways.

Colonel H. J. T. Venter has been appointed Chief of Police & Investigation, South African Railways & Harbours.

GREAT SOUTHERN RAILWAYS (EIRE)

Mr. M. J. Ginnety has retired from the position of Acting Chief Mechanical Engineer.

Mr. J. H. White, Audit Accountant, also has retired.

INDIAN RAILWAY STAFF CHANGES

Mr. A. C. Dunsdon, Deputy Chief Engineer, E.I.R., has been granted 14 months' leave preparatory to retirement, as from March 30.

Mr. K. C. Bakhle, Officiating Deputy Chief Engineer, G.I.P.R., has been appointed as Officer on Special Duty (Post-War Reconstruction), Railway Board.

Mr. D. O. Thomas, Officiating Deputy Commercial Manager, M.S.M.R., has been appointed to officiate as Chief Commercial Manager, as from June 1.

Mr. K. L. Crawford, District Commercial Manager, Senior Scale, M.S.M.R., has been appointed to officiate as Deputy Commercial Manager, as from the same date.

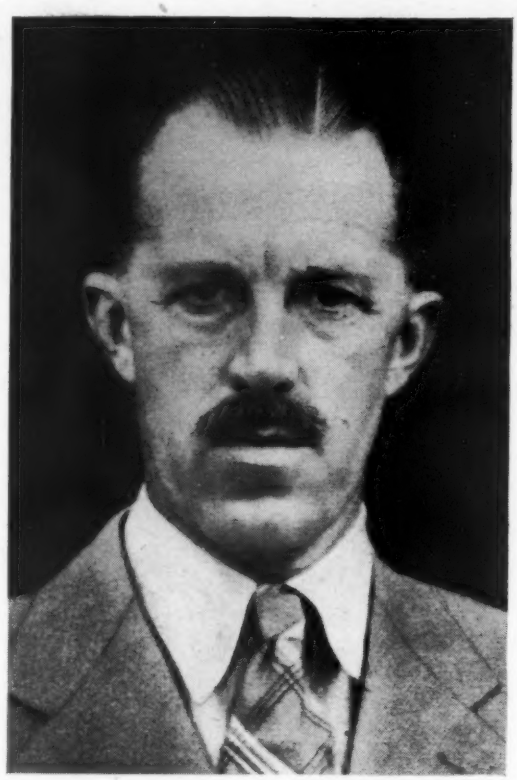
Mr. H. Pickford, District Transportation Superintendent (Power), M.S.M.R., has been appointed to officiate as Deputy Chief Operating Superintendent, as from June 26.

Mr. B. A. Khan has been appointed to officiate as Deputy General Manager (Personnel), N.W.R., in place of Rai Bahadur P.B. Chandwani, granted leave.

Mr. P. C. Khanna, Deputy Chief Engineer, N.W.R., has been appointed to officiate as Divisional Superintendent, Ferozepur, on that railway, in place of Mr. A. G. Hall, O.B.E., granted leave as from May 15.

Mr. P. S. A. Berridge, Executive Bridge Engineer (West), N.W.R., has been appointed to officiate as Deputy Chief Engineer, Bridges, in place of Mr. S. M. Johnson, M.C., granted leave.

Dr. H. J. Nichols, D.Sc., M.Inst.C.E., A.M.I.Mech.E., J.P., Deputy General Manager, Bombay, Baroda & Central India Railway, who, as recorded in our April 21 issue, has been appointed General Manager, first went to India in 1920, and joined the B.B.C.I.R. as an Assistant Engineer, on the Abu Road Division. Later he was posted to the Bulsar Division. In 1926 he was seconded to the post of Executive Engineer (Bridges), and was appointed Bridge Engineer on the restoration of that post as from April 1, 1934. As Bridge Engineer he has been responsible for the construction of some of the railway's largest bridges, notably the Silver Jubilee Bridge over the Narbada, the strengthening of major bridges between Bombay and Ahmedabad, and the design of the new Narbada Bridge at Mortakka. In 1930 his services were loaned to the Railway Board for six months to undertake certain investigations into the strength of bridges and the design of structures. In 1935 he was on deputation to the Bhavnagar State Railway for a short period to inspect some weak bridges and to advise on their strengthening. In February, 1939, Dr. Nichols was promoted Deputy General Manager (Establishment & Traffic). In April, 1940, he took charge of the post of Deputy General Manager (Works & Stores). After the entry of Japan into the war, with the consequent expansion of the war planning and A.R.P. activities of the railway, he was transferred, in May, 1942, to the then newly-created post of Deputy General Manager (War Planning). In addition to his duties in the last-mentioned position, which later were extended to embrace post-war planning, he was deputed, in April, 1943, to organise a separate Food Department on the railway, to implement the decision of the Railway Board that the activities of existing grain shops must be expanded with a view eventually to supplying practically all the necessaries of life to the staff. In the latter capacity he was designated Deputy General Manager (Grainshop Department); he continued to carry out the dual functions of Deputy General Manager (War Planning) and Deputy General Manager (Grainshop Department) until his appointment as General Manager in January, 1944. Dr. Nichols has served as a member of the Bridge Standards Committee of the Railway Board for the last 15 years. He was a member of a subcommittee set up in 1931 by the Institution of Engineers (India) to consider a draft revision of British Standard Specification No. 153 for Girder Bridges (Materials, Workmanship & Erection). In 1940 his services were loaned to the Bombay Municipality to report on measures to be adopted for the reconstruction of a pier and two spans of the Kashali Road Bridge over the Bassein Creek, which had collapsed, and for the future protection of the bridge. In the same year he assisted the Ahmedabad Municipality in connection with the construction of two bridges across the Sabarmati River. Towards the end of 1943, at the request of the Hindustan Construction Co. Ltd., Bombay, and with the sanction of the Railway Board, Dr. Nichols acted as the firm's nominee in arbitration proceedings in connection with certain claims which the company, as contractor for the civil engineering portion of the Ceylon Hydro-Electric Scheme, preferred against the Ceylon Government.



Dr. H. J. Nichols

Appointed General Manager, Bombay, Baroda & Central India Railway

---

Mr. J. W. Rodger, Director & General Manager of Bruce Peebles & Co. Ltd., has been appointed Managing Director of the company.

The late Mr. Edmund Bruce Ball, who was Managing Director of Glenfield & Kennedy Limited, left £70,120.

Sir Arthur Winder, F.R.S.A., J.P., who, as recorded in our October 6 issue, has resigned his position as Director & General Manager of the English Steel Corporation Limited, Darlington Forge Limited, and Industrial Steels Limited, commenced his career with Thomas Firth & Sons Ltd. He also studied metallurgy at Sheffield Technical School (now the Applied Science Department of Sheffield University); he gained the Mappin Medal for honours in Metallurgy, and became an Associate of Metallurgy. In 1906 he became Manager of the new Siemens plant put down by Jonas & Colver Limited, in which he introduced an 8-hour working day. In 1918 Sir Arthur Winder returned to Thomas Firth & Sons Ltd., and later became Director & General Manager of Industrial Steels Limited. In 1932 he became Works Director of all the Sheffield Works of the English Steel Corporation Limited. He is a Director of Vickers-Armstrongs

Limited, Firth-Vickers Stainless Steels Limited, the Oughtibridge Silica Firebrick Co. Ltd., and High Speed Steel Alloys Limited; and a member of the council of the British Iron & Steel Federation. He was for several years Chairman of the Alloy Steels Association.

Mr. F. Pickworth, a Director of the English Steel Corporation Limited, Darlington Forge Limited, and Industrial Steels Limited, who, as recorded in our October 6 issue, has been appointed also General Manager, joined in 1911 the accountancy staff of Cammell Laird & Co. Ltd., of which previously he had been on the works staff. In 1915 he went to Nottingham as Chief Accountant of one of the first projectile factories erected for the Government, and in 1917 returned to Cammell Laird & Co. Ltd. as Assistant Chief Accountant; later in that year he was appointed Chief Accountant. On the formation of the English Steel Corporation Limited in 1929, he became Assistant Secretary; he was made Secretary in the next year, and afterwards became a Special Director. Since his appointment as a Director in 1936, Mr. Pickworth has been in control of finance and administration, and of the planning, construction, and modernisation of works and plant, including large extensions on behalf of the Government. From the beginning of the war he has had charge also of the sales organisation. In 1940 he was made a Director of Vickers-Armstrongs Limited; and he is a Director of Firth-Vickers Stainless Steels Limited, Taylor Bros. & Co. Ltd., and the Oughtibridge Silica Firebrick Co. Ltd.

Colonial Railway Appointments

Mr. D. V. Summers, Assistant Accountant, Gold Coast Government Railway, to be Administrative Assistant, Gold Coast Government Railway.

Mr. B. M. Masters, Senior Clerk, Kenya & Uganda Railways & Harbours Administration, to be Office Assistant to the Port Manager, Kenya & Uganda Railways & Harbours Administration.

Mr. T. W. Sharp, Assistant Traffic Officer, Nigerian Railway, to be Senior Assistant Traffic Officer, Nigerian Railway.

Mr. C. E. Whittington, Assistant Traffic Officer, Nigerian Railway, to be Senior Assistant Traffic Officer, Nigerian Railway.

Mr. J. E. S. Bodger, M.Inst.C.E., Engineer, Way & Works (Acting Deputy General Manager), Ceylon Government Railway, who, as recorded in our September 22 issue, has been appointed Deputy General Manager, began his career as a pupil at Peterborough on the former Great Northern Railway. He became an Assistant to the District Engineer, Leeds, and from that position joined the Army in 1915; he served in a pioneer battalion in France, Macedonia and Palestine, on field engineering work, which included light railways, roads and water supplies. Mr. Bodger was mentioned in dispatches in 1918. In 1919 he was demobilised and returned to the District Engineer's Office, Leeds, where he remained until 1921, when he joined the Ceylon Railway Extensions Department as an Assistant Engineer to work on the construction of the Trincomalee Railway. He transferred to the Way & Works Department, Ceylon Government Railway, as an Assistant District Engineer in 1924, and was promoted District Engineer in the next year. He served in various departments, and in 1933 was appointed Assistant Engineer, Way & Works Department; he officiated as Signal Engineer, Way & Works Department, from 1932 to 1934. In 1934 he was appointed Deputy Engineer, and during the greater part of 1936, while Mr. G. E. Samuels was away on leave, and in 1937, when Mr. Samuels was acting as General Manager, Mr. Bodger acted as Engineer, Way & Works. He was confirmed in that position on the retirement of Mr. Samuels in May, 1939. Mr. Bodger later acted for a period as General Manager, in addition to his own duties, while Mr. W. G. Hills, the present General Manager, was ill. He has recently been acting as Deputy General Manager, in which position he is now confirmed.

L.M.S.R. Appointments

The L.M.S.R. announces the following appointments:—

Mr. S. E. Parkhouse, Divisional Superintendent of Operation, Crewe, to be Assistant Chief Operating Manager, Watford, H.Q., *vice* Mr. S. H. Fisher, promoted.

Mr. H. H. Dyer, Electrical Assistant, Signal & Telegraph Engineer's Department, Watford, H.Q., to be Assistant Signal & Telegraph Engineer, Watford, H.Q., *vice* Mr. W. Wood, promoted.

Mr. J. W. Watkins, Divisional Superintendent of Operation, Derby, to be Divisional Superintendent of Operation, Crewe, *vice* Mr. S. E. Parkhouse, promoted.

Mr. C. Phizackerley, Assistant (Freight Services), Chief Operating Manager's Office, Watford, H.Q., to be Divisional Superintendent of Operation, Derby.

Mr. R. O. Banister, District Goods & Passenger Manager, Northampton, to be Divisional Superintendent of Operation, Manchester, *vice* Mr. J. H. Robinson, retiring.

Mr. F. G. Hole, Hotels Accountant, Watford, H.Q., to be Chief Assistant to Hotels Controller, Watford, H.Q.

Mr. L. P. Ball, Assistant Divisional Superintendent of Operation (Traffic), Crewe, to be Assistant (Freight Services), Chief Operating Manager's Office, Watford, H.Q., *vice* Mr. C. Phizackerley, promoted.

Mr. F. L. Houghton, Head of Rates Office, Chief Commercial Manager's Office, Watford, H.Q., to be Assistant (Freight Rates), Chief Commercial Manager's Office, Watford, H.Q.

Mr. A. Jones, Chief Rates & Charges Clerk (Passenger), Chief Commercial Manager's Office, Watford, H.Q., to be Assistant (Passenger Rates & Fares), Chief Commercial Manager's Office, Watford, H.Q.

Mr. L. D. Morgan, Chief Rates & Charges Clerk (Coal), Chief Commercial Manager's Office, Watford, H.Q., to be Assistant (Mineral Rates), Chief Commercial Manager's Office, Watford, H.Q.

Mr. A. E. Marriott, Assistant District Goods Manager (Commercial), Broad Street, to be District Goods & Passenger Manager, Northampton, *vice* Mr. R. O. Banister, promoted.

Mr. D. R. White, Divisional Assistant (Telegraphs), Signal & Telegraph Engineer's Department, Derby, to be Divisional Signal & Telegraph Engineer, Derby, *vice* Mr. F. J. Dutton, retired.

Mr. A. P. Hunter, Divisional Controller (Freight Services), Office of Divisional Superintendent of Operation, Crewe, to be Assistant Divisional Superintendent of Operation, Crewe, *vice* Mr. L. P. Ball, promoted.

Mr. R. L. Millward, Temporary Additional General Assistant to Divisional Superintendent of Operation, Crewe, to be Divisional Controller (Freight Services), Office of Divisional Superintendent of Operation, Crewe, *vice* Mr. A. P. Hunter, promoted.

Mr. A. S. Kirby, Assistant Chief of Divisional Trains Office, Office of Divisional Superintendent of Operation, Crewe, to be Divisional Controller (Passenger Services), Office of Divisional Superintendent of Operation, Crewe, *vice* Mr. S. H. Gould, promoted.

Mr. G. J. Aston, District Controller, Patricroft, to be Divisional Controller (Passenger Services), Office of Divisional Superintendent of Operation, Derby, *vice* Mr. C. B. Whittaker retired.

Mr. S. H. Gould, Divisional Controller (Passenger Services), Office of Divisional Superintendent of Operation, Crewe, to be Chief of Divisional Trains Office, Office of Divisional Superintendent of Operation, Crewe, *vice* Mr. J. A. Cotterell, retired.

Mr. S. O. Screen, Head of Engine Working Section, Chief Operating Manager's Office, Watford, H.Q., to be Chief of Divisional Trains Office, Office of Divisional Superintendent of Operation, Manchester, *vice* Mr. H. T. Hooper, retired.

Mr. J. Newman, Assistant District Goods & Passenger Manager, Perth, to be Docks & Traffic Superintendent, Grangemouth, *vice* Mr. A. Trotter, retired.

Mr. W. H. Vine, Salvage Officer, Vice-President's Office, Watford, H.Q., to be Assistant District Goods Manager (Commercial), Broad Street, *vice* Mr. A. E. Marriott, promoted.

Mr. R. Powell, Assistant Divisional Trains Clerk, Operating Manager's Office, Glasgow, to be Assistant District Goods & Passenger Manager, Perth, *vice* Mr. J. Newman, promoted.

Mr. J. S. S. Davis, Signal & Telegraph Inspector, Miles Platting, to be Divisional Assistant (Telegraphs), Signal & Telegraph Engineer's Department, Derby, *vice* Mr. D. R. White, promoted.

Mr. W. J. Sadler, Assistant (Signal Sighting), Signal & Telegraph Engineer's Department, Watford, H.Q., to be Divisional Assistant (Signals), Signal & Telegraph Engineer's Department, Derby, *vice* Mr. G. Holt, promoted.

Mr. E. Lees, Assistant District Controller, Willesden, to be District Controller, Lancaster, *vice* Mr. R. H. W. Bruce, promoted.

Mr. B. J. Pilkington, Assistant District Controller, Birmingham, to be District Controller, Patricroft, *vice* Mr. G. J. Aston, promoted.

Mr. S. A. Wilson, Assistant District Controller, Kentish Town, to be District Controller, Bath, *vice* Mr. S. Sealey, deceased.

Mr. A. Shirt, Goods Agent, Denton, to be Goods Agent, Ashton (L.M.S.R. & L.N.E.R.), *vice* Mr. C. French, promoted.

Mr. M. Lockhart, Goods Agent, Greenock, to be Goods Agent, College, *vice* Mr. J. Ferguson, retired.

Mr. J. Houston, Inspector (Goods Station Working & Cartage), Operating Manager's Office, Glasgow, to be Goods Agent, Greenock.

Mr. J. Kerr, Goods Agent, Kinning Park, to be Goods Agent, Eglinton Street, *vice* Mr. J. Graham, retired.

Mr. C. Bland, Chief & Accounts Clerk, Billingsgate, to be Agent, Billingsgate, *vice* Mr. T. H. Martin, retiring.

Captain T. S. Kay, Berthing Master, Ayr Harbour, to be Harbourmaster, Ayr & Troon Harbours, *vice* Captain J. M. Munro, deceased.

Mr. F. Lightfoot, Stationmaster, Hanley, to be Stationmaster, Macclesfield (Hibel Road); also in charge of Macclesfield (Central).

TRANSPORT SERVICES AND THE WAR—264

" Is Your Journey Really Necessary ? "

The famous wartime poster of the British railways bearing the words " Is your journey really necessary ? " has been withdrawn from exhibition.

Returning Evacuee Traffic

During the five-day luggage and parcels " flood " at Paddington, G.W.R., 425 van loads, comprising 33,569 separate items, were carried by G.W.R. road vans.

The Shelling of Dover

The Southern Railway has now announced that five of its staff (four of them in the locomotive department) were killed, and many injured, during the German cross-Channel shelling of the Kentish coast. Station premises, and the locomotive depot, as well as locomotives and rolling stock, were machine-gunned, bombed, and shelled. On September 13 last, five passengers were killed and 26 seriously injured by shelling around the station. In all, Dover had 187 shelling Alerts and 2,226 shells. The last day of shelling was September 26.

Better Lighting in Scotland

The recent relaxation in lighting restrictions has given the L.N.E.R. the opportunity to improve the lighting at Waverley Station, Edinburgh. The new standard is five times brighter than the brightest lighting hitherto allowed, and the more cheerful atmosphere brought about by this improvement is welcomed by the public and the station staff. The work of improving the lighting at suburban stations is going ahead, and at railway marshalling yards, depots, and other railway premises in and around the city brighter illumination has been or is being installed.

Deep-Level Tube Shelters in London

During the height of the flying bomb attack, the decision was taken to use the deep-level London tube shelters specially built some three years earlier, but never brought into use. Of the eight, five only were opened eventually, as follow :—

Stockwell	July 9
Clapham North	July 13
Camden Town	July 16
Clapham South	July 19
Belsize Park	July 23

These shelters were described and illustrated in our issue of July 14 (pages 40-42 and 45). Two of them, one north and one south of the Thames, are to be closed until further notice from tomorrow, October 21.

Shorter Trains on the L.N.E.R.

Because of the time which was being lost by reason of the need for two and three pull-ups at stations, and the very considerable additional strain placed on the locomotive by extra long trains, the maximum train load on the L.N.E.R. was reduced at the end of June from 20 to 18 vehicles for main-line trains. From the outbreak of war, 20 coaches have constituted the nominal maximum load on the L.N.E.R., but last-minute demands have occasionally resulted in trains of 22, 23, and even 24 vehicles ; a record of 26 vehicles was established in 1941 (see editorial note, page 369).

Restoration of Station Signs

The Railway Executive Committee has announced that the British railways welcome the revocation, as from October 10, of all emergency restrictions on the exhibition of place names throughout Great Britain, and will reinstate normal station nameboards as quickly as labour conditions permit. The original restrictions were imposed in 1940, after Dunkirk, and have been relaxed gradually as the war situation has improved, and the risk of invasion has receded. In June last, the Home Secretary permitted the re-erection of signs not exceeding 6 in. in height, with the exception of those signs which could be seen and read from low-flying aircraft.

Birkenhead Producer-Gas Buses Withdrawn

The producer-gas motorbuses in Birkenhead have now been withdrawn ; the first went into service in February, 1943.

Repairing Italian Railways

More than 3,000 miles of railway line in Italy have been repaired by the Allies, according to a Rome radio message of September 30

Danish Hostages on Troop Trains

In a recent series of attacks by Danish patriots on German troop trains, many German soldiers have been killed and injured. In order to deter such action in the future, the Germans announced on October 8 that Danish prisoners will in future be carried by every German troop train.

Holland Without Transport

The railway strike in Holland ordered by the Dutch Government had spread by the beginning of October to the whole region remaining in German hands.

Paris-Marseilles Trains

The first regular train for Paris left Marseilles on October 9. Previously, there had been only a railcar service for the use of travellers on business of national importance.

Paris Suburban Train Services

The improvement in the fuel situation in Paris, to which our Paris correspondent made reference last week (page 362), enabled the Paris suburban railways to resume their services on October 16 ; there was a limited restoration on September 5.

Rail Travel in France

Civilian passengers may now travel third class on the trains from Paris to the South of France, including regular services from Paris to Marseilles and Paris to Toulouse, both of which admitted ordinary passengers as from October 9. First and second class accommodation are still reserved for those with Government priority authorisations. It is reported that it is necessary to apply for a third-class ticket three days in advance.

Restoring French Railways

Major-General C. R. Moore, Chief Engineer of the American Army in the European Theatres of Operations, said on October 6 that Allied engineers were doing everything possible to assist the French in the restoration of the French railways. This was essential not only for operational military transport but to help to restore normal conditions in France. Much of the work on the railways was now being done by the French themselves. They provided excellent workmen, with an exact knowledge of local conditions. General Moore said that when the Germans were driven out of Paris there were no railways in working order west of Paris. The Allied bombardment, particularly in the destruction of bridges, had been so effective in dislocating the railways that the Germans could not repair them. With the use of the most up-to-date mechanical equipment, the Allies and the French were now making substantial progress in restoring the railways.

The Railway Situation in France

Two limitations on the restoration of the French railway system are rolling stock shortage and track damage, the latter resulting from the combined efforts of the R.A.F and of the retreating Germans. Estimated rolling stock requirements under the reconstruction plans of the French National Railways are 13,400 steam locomotives 400,000 wagons, 7,000 main-line bogie carriages, 2,500 suburban carriages and 9,200 bogie carriages for branch lines to replace obsolete vehicles.

One of the many tank trains on the Southern Railway

Belgian Railway Restoration

Major-General G. W. E. J. Erskine, Chief of the S.H.A.E.F. Military Mission to Belgium, stated on October 6 that already the network of railways inside Belgium was beginning to work efficiently. Transport in Belgium was of first-class military importance for the transfer of Field-Marshal Montgomery's and General Bradley's Forces through to the battlefield, and vital for the restoration of Belgian industry. The main disruption had been to the signalling system.

Conference on European Inland Transport

On the invitation of the United Kingdom and United States Governments, a conference has been held in London to discuss arrangements regarding inland transport in Continental Europe after the liberation of territories of the United Nations in Europe and the occupation of any enemy territories. These arrangements are being planned with a view to ensuring rapid movement of supplies both for military forces and the civil population, and to provide for the transport of displaced persons, and also with a view to creating conditions in which the normal movement of traffic can be resumed more rapidly. The following countries participated in the conference : Belgium, Czechoslovakia, France, Greece, Jugoslavia, Luxemburg, the Nether-

lands, Norway, Poland, the United Kingdom, the U.S.A., and the U.S.S.R. The Danish Minister in London was invited to send an observer. The first meeting of the conference took place at Lancaster House, St. James's, on October 10, under the chairmanship of Mr. P. J. Noel-Baker, M.P., Parliamentary Secretary to the Minister of War Transport.

British Transport Aid to U.S.A. Forces

More than 5,000 special trains were lent to the United States Forces from the British railways in preparation for the invasion of France. During the six months January-June, 1944, 3,764 special trains, comprising 583,525 wagons, were run carrying U.S.A. army stores; nearly 1,000 trains, with 108,626 wagons, were run in the month of June alone. In connection with the actual invasion of the Continent, a further 1,531 trains, with 75,166 wagons, were run in May and June for U.S.A. Forces alone. To help take stores across the Channel, the Americans were given 5 train ferry steamers, 50 cranes for handling stores and coal, 4 floating docks, 9 breakdown trains, and 8 mobile workshops. To help carry the wounded back from France, the Americans were given 19 hospital trains and 5 hospital carriers, two of these staffed entirely with British personnel. A long list of transport and other stores provided under Reverse Lend Lease to the Americans between January and June, 1944, includes 180 miles of complete railway track.

Strengthening U.S.A. Viaducts for War Traffic

An extensive programme was completed recently by the New York, Chicago & St. Louis Railroad, U.S.A. (generally known as the Nickel Plate Road) for strengthening viaducts to allow the passage of heavier locomotives over an important section of its main line southwards from Buffalo. Some 250 miles of that route had been barred to class "S" 2-8-4 locomotives on account of a series of single-line viaducts, with plate-girder spans carried on steel towers, built between 1902 and 1905 to Cooper's "E 40" loading. The viaducts include one 1,310 ft. long over the Grand River, a second one 821 ft. along across the Ashtabula valley, a 1,470-ft. structure across Elk Creek, one 870 ft. long over Walnut Creek, and one 592 ft. long across Chantanqua Creek. For the most part these viaducts have 30-ft. spans carried on the towers, and 60-ft. spans between them. Two of them had girders capable of carrying the "S" class locomotives at speeds of up to 45 m.p.h., but their towers required strengthening; the remaining three had had their towers strengthened in 1933-34, but nothing had been done to the girders.

On account of shortage of steel, it was not possible to replace the girders just mentioned with entirely new material, and a programme was drawn up for beginning reconstruction of the first viaduct with a new 60-ft. and a 30-ft. span, and then by strengthening the two spans so released and reinserting them as the next two spans, and so on across the viaduct to completion. Actually, it was necessary only to provide the 30-ft. span as new, for the railway had on hand a 60-ft. span which, subject to reinforcement, was suitable for the purpose. The steelwork of the viaducts generally was in good condition, but the exposed parts of the top cover-plate had been corroded by brine drippings from refrigerator wagons. Originally the 60-ft. girders had two cover-plates, top and bottom.

In the top flanges, by the combined use of the old plates (from which the corroded sections were cut) and new plates, three-plate flanges were built up; in the bottom flanges, the two existing cover-plates were re-used, with a new third cover-plate added. The webs, which were in good condition, required no more than additional stiffeners. As the 30-ft. girders were of the same depth as the 60-ft., less strengthening was required. The work of remodelling the spans was done as near to each viaduct as possible, and a self-propelled derrick with a 50-ft. boom was used for handling the spans.

The time occupied in replacing each 60-ft. span, between breaking and restoring the track, was gradually reduced from 90 to 75 min., and the 30-ft. spans were inserted, on the average, in 60 min. each, so that traffic interruption was reduced to a minimum. As the end of each viaduct was reached, the two spans left over—a 60-ft. and a 30-ft.—were transported by rail to begin the replacement on the next structure. In all, 66 girder spans were dealt with in this way at the three viaducts concerned. The two viaducts of which the trestle towers required strengthening had this applied by means of additional angles; further strengthening with horizontal struts and welded plates, to reduce the unsupported lengths of each column, is under consideration. We are indebted to our American contemporary, the *Railway Age*, for the foregoing information.

U.S.A. Facilities for Servicewomen

Recently the Pennsylvania Railroad has provided some new facilities in Philadelphia for Servicewomen and Servicemen's wives. On July 15, at Broad Street Station, an attractive lounge was opened for W.A.C.S., WAVES, SPARS, Women Marines, and Army and Navy Nurses. It is the fourth of such facilities to be provided in the station, and has a dormitory for 25, shower-baths, "powder room," clothes pressing facilities, and other conveniences. The "powder room" has five individual dressing tables and facilities for laundering hose. The lounge itself has divans, easy chairs, writing desks, radio, piano, books, and magazines; it is staffed by railway personnel and open 24 hr. daily. In the Pennsylvania Station at New York the same railway opened, on July 24, an infants' nursery, where wives of servicemen who are in the city for short periods can leave their children in capable hands. The nursery, 50 ft. × 18 ft., is attractively furnished and equipped, and a registered nurse and a matron are on duty throughout the open hours, which are 7.30 a.m. to 12.30 midnight. Cribs are provided with facilities for bathing and feeding babies, and every convenience both for children and their mothers.

American Hospital Cars

The American Car & Foundry Company is now engaged in building 100 hospital cars to the order of the United States War Department. These will incorporate comfortable lying-down accommodation for 36 patients, comprising 30 wounded and 6 mental or shock cases; there will also be two roomette sleeping berths in each car for the medical staff, two lavatories, a shower-bath, and a completely-equipped kitchen with cooking range, refrigerator, sterilizer, and ample cupboard room for provision storage. The reception room in each car will be provided with doors 4 ft. wide, so that patients on stretchers may be moved in and out comfortably and expeditiously. There will be generous luggage and locker space, and each car will have complete air-conditioning. The cars are being built at the St. Charles (Missouri) plant, which also is reconverting 118 of the earlier hospital cars.

Canadian Electricity Ban Lifted

The restrictions on the consumption of electricity in Canada were lifted on October 1; they were imposed in the Autumn of 1942, to assist war industry.

Canadian Locomotive Production

The shops of the Canadian Pacific Railway and the Canadian National Railways are reverting to locomotive and rolling stock production, in place of their wartime munition production.

Chinese Civil Evacuation

The determined Japanese effort to capture advance American air bases in Free China is resulting in some Chinese civil evacuation from threatened areas. The view shows Chinese civilians and their luggage being conveyed in open goods wagons from the line of the Japanese advance to safer areas

The Great Western of Brazil Railway Co. Ltd. Annual Meeting

The ordinary general meeting of the Great Western of Brazil Railway Co. Ltd. was held at River Plate House, London, E.C.2, on October 18. Mr. W. M. Codrington, Chairman of the company, presided.

The Chairman, in the course of his statement issued with the report and accounts, said: "I have to record the death of two men to whom your company owes much, Sir Follett Holt and Mr. Norman B. Dickson. The former was General Manager of your company from 1898 to 1900 and occupied a seat on the board from 1911 to 1934, during 20 years as Chairman.

Mr. Norman B. Dickson had been a director for 29 years. He brought to our counsels not only the practical experience he had gained as a railwayman in Brazil, but also sound financial judgment. In his place we have elected Brigadier James Storar, who also is a practical railwayman with experience of overseas conditions.

The gross receipts in currency were the highest in the history of the company and reflect the increase of tariffs put into force in 1942-43, the virtual absence of road competition and additional traffics brought by war conditions. The amount of sugar and its subsidiaries carried showed an increase; the relative figures were 1,043,544 tons compared with 909,086 tons. Cotton, on the other hand, fell from 86,910 tons in 1942 to 85,991 tons in 1943, but thanks to the increase in rates, produced receipts £14,033 higher.

Working expenses continue to increase. It has been calculated that the cost of living in the North East of Brazil has risen to 190 per cent. over the 1938 level; and Brazilian legislation has already provided for increases in wages and salaries which will cost this company approximately £88,000 in a full year. The Brazilian Government has sanctioned an increase in rates (except for certain foodstuffs) by 20 per cent. to meet these charges, and the increase came into force on September 18, 1944.

Fuel costs have increased and may increase still further. Due to heavy floods which occurred on the railway this year, considerable difficulty was experienced in obtaining sufficient firewood; we have been obliged to re-convert seven locomotives to burn oil. We shall also be compelled to import a cargo of coal from overseas. This will cost us £5 10s. per ton c.i.f. compared with 35s. in 1938. This prospective increase in fuel costs, coupled with the rising prices of all imported materials, and the necessity for increased repairs to our hard-worked rolling stock, indicates that the ratio of working expenses will show an increased tendency to rise during the current year.

You will observe that we have secured relief in the matter of the rental payment due to the Brazilian Government. Under our 1920 contract this was based on a sliding scale which would have entailed a payment of £48,000 in respect of 1943; but as a result of negotiations by our representatives in Rio, the Brazilian Government has recognised the change in conditions which has taken place since that contract was signed and it has now fixed the rental payable annually in respect of our lease at Cr. $150,000.00 (£1,885), irrespective of our gross receipts.

The problem of effecting the renewals necessary to keep the company's track and plant in a state of efficiency has caused considerable concern. For many years, until recently, funds have not been available, and it is very difficult to obtain materials. The usual practice is for railways to set aside from their receipts an annual provision for renewals. Unfortunately, our contract does not recognise any such appropriation as a charge to working expenses. Moreover, when the net receipts in any year (as determined in accordance with our contract) reach the equivalent of £260,164, the surplus must be handed over to the Brazilian Government, however inadequate the expenditure on repairs and renewals may have been during the year.

During 1943 it proved possible to purchase and charge to working expenses a limited quantity of permanent-way material and some locomotive boilers, but the need for repair and maintenance materials is still acute.

I am happy to say that the Brazilian Government has recognised the special circumstances under which we are now operating, and has agreed to allow the company to purchase during 1944 Certificates of Equipment to the value of Cr. $5,000,000.00 (£63,000), the cost of which it will recognise as a working expense. These Certificates of Equipment, in effect, are a deposit on which we shall be able to draw after the war for the acquisition of materials for renewal and maintenance; they can thus be regarded as equivalent to an allocation to a renewals fund and should render any recourse to prior lien debentures unnecessary.

The mechanised accounting equipment installed some years ago in the audit department proved quite inadequate to deal with the present volume of traffic. The cost of new equipment and of the increased staff which has had to be employed to operate it is reflected in the administration and general charges which also has been affected by the higher level of wages and cost of materials.

From the realised sterling profit we have to meet our obligations to the British revenue authorities and the debenture holders. Until this year it has been possible to offset the whole of the company's liability for income tax against the tax deducted from debenture interest payments. Our assessable profits have, however, now reached a figure where a considerable additional payment has to be made out of our exiguous net revenue. Moreover, each year our contribution to the sinking fund rises as the amount in respect of interest on bonds previously redeemed increases. Further, with tax at 10s. in the £, our net profits, in effect, have to supply a sum equal to double this growing sinking fund allocation.

I would draw your attention to the greater provision we now have to make for Brazilian taxes. The burden of double taxation falls with great severity on a company like ours. In this matter the board are powerless, but it is to be hoped that when consideration is given to conditions under which British enterprises are to operate after the war, some reciprocal arrangement will be reached between the Governments concerned.

It would appear from the working results so far received that the maximum net profit permitted under the contract will be reached this year, with a surplus of Cr. $5,000,000.00 which, as already mentioned, will be invested in Certificates of Equipment.

I cannot at this stage anticipate the ultimate position of the company once the arrears of wartime traffic have been handled and operating conditions are again on a peacetime basis. But it is the opinion of my colleagues and myself that such prosperity as we have enjoyed since 1942 is unlikely to endure under peace conditions, notwithstanding the undoubted development which has taken place in Brazil under the stimulus of war, unless we are protected in some measure from road competition.

In concluding this review of the operations of a British company which for 72 years has co-operated with the Brazilian Government in the economic field, I may perhaps be permitted to refer to the arrival of the Brazilian Expeditionary Force in the Mediterranean theatre of operations, where I understand they are earning golden opinions.

Finally, I desire to express to Dr. Leao and his staff, both Brazilian and British, our admiration for the efficient manner in which they have dealt with the record traffic on the railway under the most difficult conditions. Our colleague in Rio, Mr. Gudin, has always been a tower of strength; and from my account of the negotiations carried out in Rio you will have gathered how much we all owe to the good work carried out under his guidance by our representatives, Drs. Lins and Baptista.

I would like also to pay a tribute to the manner in which Mr. Ellis and the much depleted staff of the London Office have carried on under the strain of flying bombs and interest arrears payments.

The report and accounts were adopted.

London Transport Trailer Pump Competition

The autumn finals in the London Transport Trailer Pump Competition were held at Acton Railway Overhaul Works on Saturday, October 7. These competitions are held twice a year. Preliminary trials had been held throughout the Board's area, and the six teams making the best aggregate times were in the finals.

The drill used was that agreed for the inter-railway events, and consisted of running the light trailer pump back 40 ft. to the dam, starting the engine, running out two lengths of suction hose and two 75 ft. lengths of canvas delivery hose, fix branch, knock down target, make up—including under-running of hose over the shoulder from coupling to coupling, stow gear and run back 6 ft. to the finishing line. The men were dressed in heavy oilskin jackets and leggings, belt, rubber gum boots and steel helmet.

Three judges were provided by the N.F.S., Acton Fire Station, and two of the Board's A.R.P. instructors acted as timekeepers. The results were :—

	Time.	Penalties
1st—Acton Works (Railways), team No. 4	1 m. 25 sec.	Nil
2nd—Wood Lane (Railways), team No. 1	1 m. 26½ ,,	,,
3rd—Morden (Railways), team No. 1	1m. 29 ,,	,,
4th—Stonebridge (Trolleybus), team No. 1	1 m. 27 ,,	5 secs.
	Total 1 m. 32 secs.	
5th—Acton Works (Railways), team No. 1	1 m. 33½ sec.	Nil
6th—Bow (Trolleybus), team No. 1	1 m. 39½ ,,	5 secs.
	Total 1 m. 44½ secs.	

At the end of the drills, a silver cup (pre-

sented by the Board and held for the last two occasions by the Wood Lane team) was presented by Mr. John Cliff to the winning team. He also presented certificates to each member of the winning team and to the members of the team who were runners-up.

P.W.I. Exhibition at Cardiff

The South Wales Section of the Permanent Way Institution is holding an exhibition in the National Museum of Wales, Cardiff, as part of the Diamond Jubilee celebrations. This is the twelfth, and probably the last, of the exhibitions throughout the country to which we have referred on more than one occasion. It is open to the public from October 15 to 21 (inclusive). On Saturday last, October 14, an inaugural meeting was held at which the President, Mr. V. A. M. Robertson took the chair, and at the conclusion of the meeting the exhibition was formally opened by the Lord Mayor of Cardiff.

A small party from London, including Mr. Robertson, Mr. A. S. Quartermaine (Chief Engineer, G.W.R.), and Mr. F. H. D. Page (Signal Engineer, G.W.R.), as well as officials of the South Wales Section, was entertained to luncheon at the City Hall by the Lord Mayor.

Among those present at the inaugural ceremonies were :—

Messrs. Robertson, Quartermaine, Page, W. J. Thomas (Chief Docks Manager, G.W.R.), E. C. Cookson (who becomes Divisional Engineer, Newport, G.W.R. next January), T. T. Mead (Divisional Engineer, Newport, G.W.R.), A. W. Hollingdale (Divisional Engineer, Cardiff, G.W.R.), M. A. Henry (Divisional Engineer, Neath, G.W.R.), M. C. Harrison (Divisional Docks Engineer, G.W.R.), T. R. Dovell (Resident Docks Engineer, G.W.R.), M. G. R. Smith (Assistant to Chief Engineer, G.W.R.), A. Lester Williams (Chairman, South Wales Section, P.W.I.), A. W. M. Dyke (Council Member, P.W.I.), W. D. Johns (Secretary, South Wales Section, P.W.I.), Dr. F. J. North (Curator, National Museum of Wales), Charles E. Lee (Associate Editor, *The Railway Gazette*), J. A. R. Turner (Hon. Sec. Diamond Jubilee Committee), as well as Aldermen, Councillors, and officials of Cardiff City. Messrs. Smith and Lee are members of the Diamond Jubilee Committee of the P.W.I.

At the inaugural meeting, held in the Reardon Smith Theatre, National Museum of Wales, Mr. Robertson outlined the progress of the Permanent Way Institution during the past 60 years, and referred to the important part which South Wales had played in track development, including providing the birthplace (Argoed, Monmouthshire) of William Lewis Meredith, the founder of the P.W.I. Mr. Robertson gave some succinct details also of the important part which railway track was playing in the conduct of the war, and the heavy responsibilities carried willingly by permanent way staffs. He hoped that the membership of the P.W.I., which had grown from 129 in 1884 to 3,440 at present, would reach the 3,500 mark during the Diamond Jubilee year. Mr. Robertson emphasised the democratic character of the P.W.I., which was unique in reserving its full membership and associate membership for the working members of the civil engineering staffs (who constituted more than two-thirds of the strength), and provided for the free association of all grades engaged in railway civil engineering for the furtherance of knowledge and interchange of ideas.

Mr. Quartermaine spoke of the encouragement which the Great Western Railway gave to its staff to participate in the work of P.W.I. and expressed his gratification at the strong and flourishing state of the South Wales Section, most of whose members served the G.W.R.

Mr. Page referred to the interdependence of track and signalling and of the value of the respective staffs exchanging knowledge and ideas.

Dr. North hoped that the exhibition would do something towards directing the attention of the public to the vital importance of railway track, which was apt to be accepted in the same way as the electricity and water supply. Marvellous engineering achievements were noticed only on the rare occasions of failure.

Parliamentary Notes

L.M.S.R. Railway Bills

The London Midland & Scottish Railway Bill was reported with amendments from the Committee of Private Bills to the House of Commons on October 5. The Bill, as amended, and Report, were ordered to lie on the Table, and the Report was ordered to be printed.

The London Midland & Scottish Railway (Canals) Bill was also reported with amendments from the Committee of Private Bills to the House of Commons on October 5. The Bill, as amended, and Report, were ordered to lie on the Table, and the Report was ordered to be printed.

Post-War Civil Aviation

Lord Balfour of Burleigh outlined a scheme of air services prepared by the four British main-line railway companies, which had been submitted to the Government in the course of another debate in the House of Lords on October 12 on post-war civil aviation. The main features of the scheme are described in an editorial article on page 371.

The Marquess of Londonderry, who opened the debate, asked whether Lord Swinton, when he became the Minister for Civil Aviation, would be on a level with the Secretary of State for Air, and would he have power to order machines direct from the Ministry of Aircraft Production.

Lord Beaverbrook (Lord Privy Seal) said the Government had appointed a Minister whose record in aviation was unsurpassed. They had vested him with Cabinet rank. They had decided that he should be given supervision of a Ministry of Civil Aviation independent of the Air Ministry. Lord Swinton's whole-time duty would be to carry forward at once the work of planning in the field of civil aviation. In due course, and when Parliament decided, he would have sole responsibility for civil aviation with an independent Ministry to help him. It was the first time the Government had recognised the need for a separate organisation. Lord Swinton would have the right of direct access to the Ministry of Aircraft Production, and on the same footing as the Secretary of State for Air and the First Lord of the Admiralty. The main purpose of the new Aviation Minister would be to provide conditions affording the greatest amount of employment in civil aviation and the aircraft factories.

Lord Balfour of Burleigh said that a fully worked out comprehensive scheme was now in the hands of the Government, whereby the four main-line railways of this country, acting together, showed how it would be possible to run a completely comprehensive network of services covering the whole of the United Kingdom, including the islands within the United Kingdom, Eire, and the Continent of Europe. There were set out in the plan 34 internal routes for the air service of this country. Eighteen Continental routes were listed, including every European capital. The proposal was that the four main-line companies should form a new separate company to operate these services and undertake charter business. It was proposed that the company should operate without subsidy on the one condition that no other services were subsidised in competition. There were three very large unknown factors, namely, fares, rates of exchange, and the cost of petrol which were bound to introduce a good deal of uncertainty into the plan. But they had no doubt about the demand for air travel. The railways felt that they had resources sufficient to face a loss for the first period; then they thought there would be a period of years in which they might break even; and then, finally, in the long run they felt they would reap a profit which they thought they would deserve. They would hope to see working carried on in a spirit of international co-operation. There could be competition in efficiency, but they would hope to see international arrangements made for such things as frequency of services, capacity of aircraft, and, of course, fares and rates.

Viscount Rothermere thought there should not be licences given for more than one line running to one place, but if they could not have parellel competition they could have comparable competition, which would enable the public to decide which line was the most efficient.

Questions in Parliament

Lighting in Trains

Sir Ralph Glyn (Abingdon—C.) on October 5 asked the Secretary of State for the Home Department what were the reasons for refusing to permit the removal of the painted area of railway carriage windows at the present time, and whether, in view of the fact that this form of blackout in the winter months precluded daylight adequate to enable easy reading, he would now agree to the removal of these blackout areas on the windows of railway passenger rolling stock.

Mr. Herbert Morrison (Secretary of State for Home Affairs): Lighting in trains has been reviewed recently with the object of allowing as much light as possible for passengers during the winter. One improvement which has been made is that full lighting without shades is being restored in those carriages fitted with blinds. This important relaxation necessarily involves the retention of the painted area on carriage windows to prevent too great a spill of light.

Sir R. Glyn: Is the Minister aware that the painting on the carriage windows stops practically all light in the dark winter days coming into the carriage, and that no experts who have been consulted, agree that the present regulation hinders raiders; and will he give further consideration to the matter, considering that the lighting inside the compartments is now only one-third of what it was pre-war.

Mr. Morrison: The night lighting in compartments fitted with suitable blinds can be full and without shades. It necessarily follows that there is increased risk of light getting outside. Therefore, the painted portion must remain. If the painted area is all over the window, as Sir Ralph Glyn has indicated, I should think that the railway companies are being a bit out of proportion, and I will look into

that point. It is possible that the railway companies have overdone it, and if there is anything of that kind, I will take it up with them.

Commander P. G. Agnew (Cambourne—C.): In view of the fact that the Minister allows good lighting inside buses without the windows being painted, will he allow the same thing in trains?

Mr. Morrison: If Commander Agnew has seen an R.A.F. aircraft practising at diving on a train, he will realise the difference between trains and buses in this matter.

Cost of Heating Passenger Trains

Mr. Rhys Davies (Westhoughton—Lab.) on October 11 asked the Parliamentary Secretary, Ministry of War Transport, how much extra coal was consumed by heating an ordinary passenger train travelling, say, 100 miles.

Mr. Noel-Baker stated in a written answer: Approximately 3 lb. of coal per mile are consumed for heating an ordinary passenger train.

Uniformed Staffs' Holidays

Mr. A. MacLaren (Burslem—Ind.) on October 4 asked the Parliamentary Secretary, Ministry of War Transport, whether he would recommend the granting of an increase of seven days' annual holiday to the uniformed staffs of all the railways.

Mr. P. J. Noel Baker (Parliamentary Secretary, Ministry of War Transport): The period of holiday for the uniformed staffs of the railways is the subject of agreements between the railway companies and the railway trades unions. Any proposal for a change in these agreements is a matter for consideration through the established machinery of negotiation.

Nigerian Railways Pensions Scheme

Mr. Thomas Fraser (Hamilton—Lab.) on October 4 asked the Secretary of State for the Colonies if he was aware of a petition, presented in May of this year, in favour of widening the pension scheme of the Nigerian railways to include artisans and other workers; and how far the petition was granted.

Colonel Oliver Stanley (Secretary of State for the Colonies): The matter is under consideration, but I am not in a position to make a statement at present.

Notes and News

Woodside Station, Southern Railway.—With the introduction of the winter timetables on October 2, the Southern Railway station previously known as Woodside & South Norwood was renamed Woodside.

Argentine Operating Statistics.—A mixed committee of operating and statistical officials of British-owned railways in Argentina has been appointed to study the question of standardising performance statistics.

Fluorescent Lighting on the Underground.—An existing surface-stock carriage on the District Line of London Transport has been equipped experimentally with fluorescent lighting, and went into service between Ealing Broadway and Mansion House on October 13. Instead of the usual separate light fittings, fixed at intervals along the vehicle, tubes of light, each 2 ft. long, run down each side of the roof above the heads of the passengers. There are 12 tubes on each side, giving practically continuous bands of light with a pleasant daylight effect which is more restful to the eye than that given by the customary yellowish electric bulbs, and also more economical of current. The wattage of each tube is 20 W, giving a total of 480 W for the car, compared with the standard arrangement of 35 60-W lamps, which total 2,100 W a car.

Permanent Way Institution.—A meeting of the Manchester & Liverpool Section will be held in the City Technical College, Byrom Street, Liverpool, on Saturday, October 21, at 2.30 p.m. After confirming minutes of the previous meeting, hearing suggestions for the 1945 syllabus, and dealing with other business, Mr. F. L. King, A.M.Inst.C.E., of Newton Heath, will present a lantern lecture on "Plant and Portable Machines—Principles and Running Maintenance." Mr. King is the Plant Superintendent of the L.M.S.R., and is well known to the members of this section for the explanation of maintenance and repairs to machines during the two visits they have made to Newton Heath. In this lecture, Mr. King proposes to outline the principles underlying the operation of petrol and compression-ignition engines. He will give explanations with descriptive illustrations of the various types of engines used on the Railway Company's service, and will point out the differences in design and the precautions to be taken in regard to each type of engine.

Canadian Pacific Railway Company.—At a meeting of the Board of Directors held on October 10, a dividend of 2 per cent. (fifty cents per share) on the ordinary capital stock in respect of and out of earnings for the year 1944 was declared

L.M.S.R. Locomotive Naming Ceremony

The Lord Mayor of Leicester, as briefly recorded last week, on October 9 named L.M.S.R. locomotive No.6252 "City of Leicester." Left to right: Mr. C. Phizackerley, Divisional Superintendent of Operation, Derby, L.M.S.R.; the Lord Mayor; Mr. G. L. Darbyshire, Vice-President, L.M.S.R.; the Lady Mayoress; and Mr. H. Tandy, District Goods & Passenger Manager, Leicester, L.M.S.R.

British and Irish Railway Stocks and Shares

Stocks	Highest 1943	Lowest 1943	Prices Oct. 17, 1944	Prices Rise/Fall
G.W.R.				
Cons. Ord.	65½	57½	58½	+ 1½
5% Con. Pref. ...	120½	108	115½	+ 1
5% Red. Pref. (1950)	110½	106	105	—
5% Rt. Charge ...	137½	123½	131½	+ 1
5% Cons. Guar. ...	135½	121 7/16	128½	+ 1½
4% Deb.	118	107½	115	+ ½
4½% Deb.	119	109 7/16	115½	—
4½% Deb.	124½	116	121½	+ 1
5% Deb.	138	127	133½	—
2½% Deb.	77	72½	74½	—
L.M.S.R.				
Ord.	34 11/32	28	30½	+ 1
4% Pref. (1923) ...	66½	58	59½	+ 1½
4% Pref.	80½	73	76½	+ 2½
5% Red. Pref. (1955)	105¾	102	103½	—
4% Guar.	107	98½	102	+ 2
4% Deb.	109¾	103½	106½	+ 1
5% Red. Deb. (1952)	111½	108	109½	—
L.N.E.R.				
5% Pref. Ord. ...	12 7/16	7⅜	8¾	+ ⅜
Def. Ord.	5⅜	3⅜	4½	+ ¼
4% First Pref. ...	66½	57½	59½	+ 1½
4% Second Pref. ...	36½	30¾	32	+ 2
5% Red. Pref. (1955)	99⅜	93	98½	—
4% First Guar. ...	102¾	94	100½	+ 2
4% Second Guar. ...	93½	85⅜	91½	+ 2
3% Deb.	86⅜	78⅜	83½	+ ½
4% Deb.	109 7/16	101⅜	106	+ 1
5% Red. Deb. (1947)	106¼	102	102	—
4½% Sinking Fund Red. Deb.	108	103½	105½	—
SOUTHERN				
Pref. Ord.	80	72½	75	+ 1
Def. Ord.	26¾	20⅞	25½	+ 1½
5% Pref.	119½	106⅞	115½	+ 1
5% Red. Pref. (1964)	114	108½	113½	—
5% Guar. Pref. ...	136	122	127½	—
5% Red. Guar. Pref. (1957)	117	109¾	113½	—
4% Deb.	117½	106	114½	+ 1½
5% Deb.	137	126	133	—
4% Red. Deb. (1962-67)	112	106½	109½	—
4% Red. Deb. (1970-80)	112	107	109½	—
FORTH BRIDGE				
4% Deb.	109	104⅞	104	—
4% Guar.	105	102½	102½	—
L.P.T.B.				
4½% "A"	125 11/16	114	120½	—
5% "A"	133 3/16	123	130½	—
3% Guar. (1967-72)...	100¼	97	99	—
5% "B"	124	114	121½	—
"C"	72	53	68	—
MERSEY				
Ord.	34½	27	34	—
3% Perp. Pref. ...	68	59½	69	—
4% Perp. Deb. ...	104	102½	103	—
3% Perp. Deb. ...	83	78½	79	—
IRELAND*				
BELFAST & C.D.				
Ord.	9	6	10	—
G. NORTHERN				
Ord.	24½	16	27⅞	+ ⅜
Pref.	—	—	44½	+ ½
Guar.	—	—	64½	+ ½
Deb.	—	—	85	+ 1½
G. SOUTHERN				
Ord.	30	9½	56½	+ ½
Pref.	30	11	56½	+ ½
Guar.	64	26½	73⅜	—
Deb.	88⅛	51⅜	95⅛	—

* Latest available quotation

OFFICIAL NOTICES

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

Overseas Employment

TEMPORARY ASSISTANT ACCOUNTANT required by the Sierra Leone Government Railway for one tour of 12 to 24 months in the first instance. Salary £400 rising to £600 a year. On salary of £400 there is a local allowance of £48, and for married men a separation allowance between £84 and £204 according to number of children. Free passages and quarters. Candidates should have a sound knowledge of the general principles of accountancy and of the various factors which govern the analysis of railway expenditure. Experience in the head or branch accounts office of a British or Colonial Railway would be an advantage.

Applications in writing (no interviews) stating date of birth, full details of qualifications and experience, including present employment; also Identity and National Service or other registration particulars, and quoting reference No. O.S.190, should be addressed to the Ministry of Labour and National Service, Appointments Department, Sardinia Street, Kingsway, W.C.2.

Universal Directory of Railway Officials and Railway Year Book

50th Annual Edition, 1944-45, now ready

Price 20/- net.

THE DIRECTORY PUBLISHING CO., LTD., 33, Tothill Street, Westminster, S.W.1

payable in Canadian funds on December 1, 1944, to shareholders of record at 3 p.m. on November 1, 1944.

Institute of Transport Presidential Address.—Mr. R. Kelso, M.Inst.T., will deliver his Presidential Address to the Institute of Transport on Monday, November 13, 1944, at 5.30 p.m., in the Lecture Theatre of the Institution of Electrical Engineers, Savoy Place, W.C.2.

Institute of Transport Silver Jubilee Luncheon.—To commemorate the twenty-fifth anniversary of the meeting on November 3, 1919, at which it was decided to found the Institute of Transport, the Council has arranged a luncheon to be held on Friday, November 3 (at 12.45 for 1.15 p.m.) in the Grand Hall, Connaught Rooms, Great Queen Street, London, W.C.2. The Council has invited a number of distinguished guests, and the number of places at the function is limited. Members are asked to apply for tickets, price 12s. 6d., not later than October 30.

Training at London Transport Signal School.—Staff of the London Transport Signal Department has the opportunity of attending several courses of lectures this winter at the signal school at Earls Court. The session opened on October 12 with a special lecture by the Signal Engineer, Mr. R. Dell. The subjects include signalling work, telephony, low-tension cable work, and lighting. There is also a special series of lectures on clocks, remote control signalling, amplifier equipment and loudspeakers, and railway point adjustments. Practical work will be demonstrated on the apparatus in the school, after the lectures.

"Pay-As-You-Board" Experimental Buses.—Within the next few days the London Passenger Transport Board is introducing an experimental "Pay-as-you-Board" bus on Route 65 between Ealing and Hook. The specially-constructed double-deck vehicle (STL 1793) will work from Kingston Garage. It has a centre entrance with a 4-ft. wide pneumatically-operated sliding door, instead of the conventional rear platform, and a centrally-placed staircase to the upper deck. A small counter is provided facing the central entrance from which the conductor will operate the door, and will collect fares and issue the tickets from a cash register machine. The vehicle seats 56 (24 on the lower deck and 32 on the upper). It is marked prominently "Pay-as-you-Board Bus" above the front destination blind and on the door.

Assistant Accountant Required.—The Sierra Leone Government Railway requires the services of a temporary assistant accountant. Details are given in our Official Notices above.

Cork Bus Terminus.—The Great Southern Railways Company has announced that the terminus of its bus services in Cork City was changed from Grand Parade to Parnell Place on Monday, October 16.

Buenos Ayres Western Railway Limited.—The directors have resolved that a payment of one half-year's arrears of interest to June 30, 1944, less tax at 10s. in the £, be made on December 5, 1944, on the 4 per cent. and 5 per cent. debenture stocks of the company.

Institution of Locomotive Engineers.—The opening general meeting (Session 1944-45) of the Institution of Locomotive Engineers will be held on Thursday, October 26, at 5.30 p.m. in the Hall of the Institution of Mechanical Engineers, Storey's Gate, London S.W.1. A Presidential address will be given by Mr. W. S. Graff-Baker.

Institution of Mechanical Engineers.—The informal meeting arranged for November 24 has been postponed until December 1, when Mr. W. S. Graff-Baker, B.Sc., A.C.G.I., M.I.Mech.E., M.I.Loco.E., will present a paper on "Mechanical Engineering Problems of London Transport." On November 24, at an extra general meeting, Mr. C. A. Gladman, B.Sc. (Eng.), A.M.I.Mech.E., will present a paper on "Drawing Office Practice in Relation to Interchangeable Components."

Coaches Derailed at Paddington, G.W.R.—The following statement was issued by the Great Western Railway Company on October 16 in connection with the derailment of two coaches of the "Cornish Riviera" express as it was leaving Paddington Station: "The derailment of an engine attached to some empty coaches today caused two coaches of the 10.30 a.m. train from Paddington to Penzance—the 'Cornish Riviera'—to be derailed as the train was leaving the station. There were no injuries, and passengers from six of the rear coaches were transferred to other vehicles and went forward on their original service, which left 35 minutes late. Some of the following trains started late, and adjustments were made to the service during re-railing operations." Normal working was resumed with the departure of the 7.5 a.m. train from Paddington on October 17.

Contracts and Tenders

Below is a list of orders placed recently by the Egyptian State Railways:—

J. W. Ward: Shears.
Ferguson & Timpson Limited: Power house spares.
Samuel Osborn & Co. Ltd.: Staybolt steel.
Baldwins Limited: Tinned sheets.
Barrow Hematite Steel Co. Ltd.: Barbed wire.
N. Greening & Sons Ltd.: Brass woven wire.
British Ropes Limited: Steel rope.
J. & J. Wiggin Limited: Steel chain.
G. A. Harvey & Co. (London) Ltd.: Steel gauge.
General Electric Co. Ltd.: Composition rods.
George Spencer Moulton & Co. Ltd.: India rubber springs.
Taylor Bros. & Co. Ltd.: Tyres.
Clyde Rubber Works Co. Ltd.: Springs.
P. & W. Maclellan Limited: Mild steel.

Forthcoming Meetings

October 20 (*Fri.*).—Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, 5.30 p.m. Presidential address: "Applied research" by Dr. K. R. Ricardo.

October 21 (*Sat.*).—Institute of Transport Metropolitan Graduate & Student Society, at the Institution of Electrical Engineers, Victoria Embankment, W.C.2, 2.15 p.m. Address by Mr. Robert Kelso, President of the Institute of Transport.

October 21 (*Sat.*).—Permanent Way Institution at the Charing Cross Hotel, 3 p.m. "Railways after the war" by Major W. A. Willox.

October 23 (*Mon.*).—Institution of Electrical Engineers, Victoria Embankment, W.C.2, 5.30 p.m. Informal meeting. Discussion (to be opened by the President) on "The engineer's part in certain post-war problems."

October 25 (*Wed.*).—Institute of Fuel (Midland Section), at the James Watt Memorial Institute, Birmingham, 2.30 p.m. Précis and discussion of the paper on "Superheaters for water-tube boilers" by Messrs. L. C. Southcott and D. W. Rudorff.

October 25 (*Wed.*).—Institute of Welding, at the Institution of Civil Engineers, Great George Street, S.W.1, 6 p.m. Symposium on "Welding in British industry after the war."

October 26 (*Thu.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, 5.30 p.m. Presidential address by Mr. W. S. Graff-Baker.

Railway Stock Market

Stock markets have been slightly more active and generally firm; British Funds again tended to move higher, and industrials showed numerous small features on dividend statements, etc.; and rather more speculative interest was taken in European and other low-priced foreign bonds. Chief topic of conversation in the City has been the airlines proposals of the main-line railways, which created an excellent impression, particularly because of its evidence of the far-sighted and enterprising policy the railways have in view. As a result, home rail stocks developed renewed strength, buyers were attracted by the large yields and by more hopeful opinions which have gained ground regarding the post-war outlook. In any case it is being assumed that the existing control agreement can be expected to continue in force until at least 1946 and that the dividend outlook for this period can, therefore, be clearly defined. An interesting feature was that the upward trend in home rails has been accompanied by general improvement in aircraft shares. It is, of course, fully realised that the basis of the organisation and control of post-war transport has yet to be decided finally. On the other hand, it is felt that the undoubted efficiency of the railways, which has enabled them to deal with a much larger volume of traffic than would normally be experienced in peacetime, and the progressive outlook indicated by the airlines proposals, are additional factors emphasising the claim of the railways and their stockholders to fair and equitable treatment after the war.

Home railways overshadowed the foreign railway market. Argentine rails have been dull and slightly easier. Moreover, French railway bonds moved back rather sharply. Elsewhere, United of Havana issues recovered part of an earlier decline, and, among Brazilians, San Paulo was good, rising 2½ to 51, demand having found the stock firmly held and in small supply in the market. Canadian Pacifics became a prominent feature; the 50 cents dividend was unexpected at this stage in view of the increased expenses arising from the wages award.

The price was marked up sharply and has since held all but a small part of the advance. The directors' statement does not rule out another payment when results for the whole year are known; but this, of course, cannot be taken for granted, particularly when it is borne in mind that past experience has shown that so many factors can intervene from time to time in the affairs of a concern of the size of the C.P.R. to affect dividend policy.

The good demand for home railway preference stocks, noted here a week ago, has made further progress; L.N.E.R. issues, including the guaranteed stocks, and L.M.S.R. preferences and guaranteed also participated in the upward trend. Prices are, however, still well below last year's highest, and there is undoubtedly good scope for further recovery if improved sentiment continues in regard to home rails, although it is not, of course, contended that last year's highest levels will necessarily be regained.

Compared with a week ago, Great Western has risen from 56¾ to 58¾. Last year's highest was 65½. Great Western 5 per cent. preference improved from 115½ to 116½. L.M.S.R. ordinary (highest in 1943, 34 13/16), 29½ a week ago, has since moved up to 30⅜, the 1923 preference from 58 to 59¼, and the senior preference from 74¼ to 76, while the guaranteed stock was two points higher at 102. L.N.E.R. first guaranteed also improved from 98 to par, and the second guaranteed from 89½ to 90½, L.N.E.R. first preference reflected the general tendency with a rise from 58 to 59½ and the second preference rose from 30¼ to 31⅜. Last year's highest for L.N.E.R. second preference was 36½ and that for the first preference 66½. Among Southern stocks, the preferred was good at 75¼, compared with 74¾ a week ago; the deferred moved up from 23¾ to 25¼, the 5 per cent. preference also strengthening from 114 to 115½. Elsewhere, London Transport "C" improved from 67¾ to 68½.

Among Argentine rails, B.A. Gt. Southern eased slightly to 11⅜, and other changes in this section showed small declines. In other directions, San Paulo ordinary moved up from 48½ to 51, and at 30½ United of Havana debentures regained part of an earlier reaction. Canadian Pacifics were 15¼, compared with 14⅛ a week ago.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ending	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1942/3	No. of Weeks	Aggregate traffics to date: Totals 1943/4	Aggregate traffics to date: Totals 1942/3	Aggregate traffics to date: Increase or decrease	Shares or stock	Prices: Highest 1943	Prices: Lowest 1943	Prices: October 17, 1944	Prices: Yield % (See Note)
South & Central America	Antofagasta (Chili) & Bolivia	834	8.10.44	£ 26,280	– £ 2,230	40	£ 1,165,460	£ 1,150,710	+ £ 14,750	Ord. Stk.	15¾	10	10	Nil
	Argentine North Eastern ...	753	7.10.44	17,520	+ 3,780	14	238,026	204,210	+ 33,816	,,	7⅞	5	4½	Nil
	Bolivar	174	Sept., 1944	5,238	– 518	39	47,755	47,669	+ 86	6 p.c. Deb.	22½	18	15½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	23½	19	19	Nil
	Buenos Ayres & Pacific ...	2,807	7.10.44	120,300	+ 15,120	14	1,596,360	1,261,800	+ 334,560	Ord. Stk.	8½	5½	5½	Nil
	Buenos Ayres Great Southern	5,080	7.10.44	167,520	+ 13,560	14	2,288,700	2,093,040	+ 195,660	Ord. Stk.	17½	9½	12	Nil
	Buenos Ayres Western ...	1,924	7.10.44	67,080	+ 18,480	14	883,920	708,960	+ 174,960	,,	16	9⅞	10	Nil
	Central Argentine	3,700	7.10.44	175,185	+ 34,350	14	2,425,797	1,902,303	+ 523,494	,,	10¾	6½	8½	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4¾	3	4	Nil
	Cent. Uruguay of M. Video	972	7.10.44	25,079	– 6,244	14	428,335	447,257	– 18,922	Ord. Stk.	7⅜	4½	4½	Nil
	Costa Rica	262	Aug., 1944	24,993	– 663	9	53,315	48,907	+ 4,408	Stk.	16	12½	16	Nil
	Dorada	70	Sep., 1944	29,850	+ 5,190	39	237,415	196,807	+ 40,608	1 Mt. Deb.	96	92	100½	£5 19
	Entre Rios	808	7.10.44	23,364	+ 3,228	14	318,294	290,130	+ 28,164	Ord. Stk.	9	5½	5	Nil
	Great Western of Brazil ...	1,030	7.10.44	19,400	+ 700	40	846,700	632,200	+ 214,500	Ord. Sh.	59/9	24/4½	30/-	Nil
	International of Cl. Amer. ...	794	Aug, 1944	$528,904	– $11,492	35	$5,306,660	$5,025,556	+ $281,104	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	2¾	1⅛	1	Nil
	La Guaira & Caracas... ...	22¾	Sept., 1944	7,036	– 999	39	71,331	76,460	– 5,129	5 p.c. Deb.	90	80	79	6½
	Leopoldina	1,918	7.10.44	44,777	+ 9,619	40	1,884,008	1,380,137	+ 503,871	Ord. Stk.	7¼	4	4½	Nil
	Mexican	483	7.10.44	ps. 452,400	+ ps. 48,700	14	ps. 6,737,900	ps. 5,775,000	+ ps. 962,900	Ord. Stk.	1/8	¼	⅛	Nil
	Midland Uruguay	319	Aug., 1944	16,470	+ 1,810	9	34,921	31,115	+ 3,806	—	—	—	—	—
	Nitrate	382	30.9.44	3,658	– 2,467	39	135,901	114,950	+ 20,951	Ord. Sh.	83/9	71/3	70/-	£3 11
	Paraguay Central	274	6.10.44	$86,470	+ $32,780	14	$822,562	$786,720	+ $35,842	Pr. Li. Stk.	75	51½	72	8½
	Peruvian Corporation ...	1,059	Sept., 1944	129,927	+ 22,660	13	375,652	314,208	+ 61,444	Pref.	17⅜	10¾	10	Nil
	Salvador	100	July, 1944	c 88,000	– c 20,000	4	c 88,000	c 108,000	– c 20,000	—	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	71	57	51	£3 18
	Taltal	156	Sep., 1944	2,705	– 4,470	13	8,240	16,905	– 9,665	Ord. Sh.	37/6	20/-	15/-	Nil
	United of Havana	1,301	7.10.44	49,120	+ 6,945	14	695,519	708,642	– 13,123	Ord. Stk.	3⅛	3¼	3	Nil
	Uruguay Northern	73	Aug., 1944	1,320	– 120	9	2,806	2,827	– 21	—	—	—	—	—
Canada	Canadian Pacific	17,018	7.10.44	1,199,000	– 31,200	40	48,789,600	44,434,000	+ 4,355,600	Ord. Stk.	18	13⅞	15	6⅔
India†	Barsi Light	202	Sep., 1944	20,820	+ 3,322	26	140,130	127,485	+ 12,645	Ord. Stk.	—	—	118½xd	£3 15
	Bengal-Nagpur	3,267	Aug., 1944	1,202,400	+ 284,550	22	5,184,150	5,153,250	+ 30,900	Ord. Stk.	104½	101¼	—	—
	Madras & Southern Mahratta	2,939	Mar., 1944	358,125	– 7,925	52	10,447,866	8,913,924	+ 1,533,924	—	—	—	—	—
	South Indian	2,349	20.12.43	199,410	+ 24,449	37	5,321,558	4,562,445	+ 750,113	—	—	—	—	—
Various	Egyptian Delta	607	10.9.44	16,200	+ 3,011	23	293,300	229,115	+ 64,185	Prf. Sh.	6 1/16	2⅞	4	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	·45	32	61½	Nil
	Midland of W. Australia ...	277	Aug., 1944	20,875	– 15,324	9	40,053	70,424	– 30,371	Inc. Deb.	101	93	99½	£4 0 5
	Nigerian	1,900	29.7.44	281,567	– 17,671	4	—	—	—	—	—	—	—	—
	South Africa	13,291	9.9.44	875,655	+ 15,623	23	20,165,789	19,113,277	+ 1,052,512	—	—	—	—	—
	Victoria	4,774	April, 1944	1,188,999	– 212,162	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ⅛. Argentine traffics are given in sterling calculated @ 16⅞ pesos to the £
† Receipts are calculated @ 1s. 6d. to the rupee